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CONCHOLOGICAL

DICTIONARY

OF

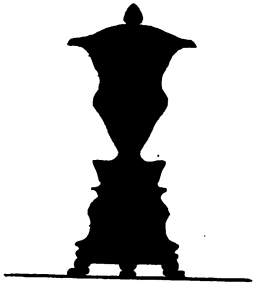
The British Islands.

BY

WILLIAM TURTON, M.D.

ASSISTED BY

HIS DAUGHTER.



" Hæc studia adolescentiam alunt, senectutem oblectant, secundas res ornant, adversis solatium et perfugium præbent."

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PREFACE.

THE elegance and simplicity in the contour or shape of shells, the richness and variety of their colors, and the singularity in many of their forms, have ever excited attention to this confined but interesting department of created nature; and the comparative facility with which they may be collected and arranged, together with the durability of their structure, make them peculiarly adapted for the display of a cabinet. Their uses, however, have not been entirely confined to the gaze of curiosity, or to fanciful embellishment. The inhabitants of many of them give a rich and nutritious food. The greater part of the lime used in America, for agricultural and architectural purposes, is made of calcined shells: the public streets of Christianstadt and Santa Cruz, are paved with the Strombus Gigas; and the town of Conchylion is entirely built of marine shells. The blue and white belts of the Indians of North America, as symbols of peace and amity, in opposition to the war hatchet, and by which the fate of nations is often decided, are made of the Venus mercenaria; and the gorget of the chieftain's war-dress is formed of the Mytilus margaritiferus. The military horn of many African tribes is the Murex Tritonis; the rare variety of which, with the volutions reversed, is held

sacred, and used only by the high-priests. The highest order of dignity, among the Friendly Islands, is the permission to wear the Cypræa Aurantium, or orange cowry. And Lister relates, that the inhabitants of the province of Nicaragua fasten the Ostrea virginica to a handle of wood, and use it as a spade to dig up the ground. As matter of traffic they bear a nominal value and appreciation, proportionate to their supposed scarcity or beauty. Rumphius is said to have given nearly a thousand pounds for one of the first discovered specimens of the Venus Dione. The Conus Cedo nulli, so very rarely offered for sale, is valued at three hundred guineas. The Turbo Scalaris, if large and perfect, is worth a hundred guineas: the Cypræa Aurantium, without a hole beaten through it, is worth fifty: and it has been calculated, that a complete collection of the British Conchology is worth its weight in pure silver. In an economical and political view, they are of no inconsiderable import. Pearls, the diseased excrescences of mussels and oysters, form a portion of the revenues of these and some other kingdoms; and constitute, with jewels, the rich and costly ornaments, by which the high and wealthy ranks of polished society are distinguished. The Cypræa Moneta, or money cowry, forms the current coin of many nations of India and Africa; and this covering or coat of an inconsiderable worm, stands at this day as the medium of barter for the liberty of man; a certain weight of them being given in exchange for a slave. The scholar needs not the reminiscence, that the suffrages of the ancient Athenians were delivered in

in, marked upon a shell; the record of which is still commemorated in the derivation of our terms, testament, and attestation. As one of the principal agents of decomposition and gradual dissolution, the geologist will find his researches assisted by an examination into their rapid and astonishing powers of perforating and disuniting rocks of calcareous sandstone, limestone, marble, and even the hardest masses of granite and porphyry, wherever they come in contact with the ocean: and by a comparative examination of the different stratifications of marine testaceous depositions, he may eventually be led to some important conclusions as to the probable elevation of the general deluge.

But the systematical conchologist has a loftier and more noble object in his pursuit; to unfold a leaf from the great book of Nature: that portion of which, respecting the treasures of our own islands, it has been our study to contemplate, and our wish to explain. Although we have not been honored by the use of the library of the venerable patriarch of natural history, Sir Joseph Banks, without which, we are informed by a modern compiler on this subject*, "no writer can hope to attain any tolerable degree of perfection;" we have not been entirely without the means by which this study can be best understood and most faithfully displayed. The whole of what is described, ourselves have seen and accurately examined, with the exception of such as are indistinct and not to be found in cabinets, a few of the rarer and nearly unique species, and some microscopic objects, the

* *Dillwyn* (Advertisement).

number of which is daily lessening. We may also hope to escape a sort of sneer by another modern writer *, of "indulging ourselves in a conjecture only on plates."

Such as we have examined in a living state, are marked *v. v.* (*vidimus vivam*); and those which have been examined in a dead state only, *v. m.* (*vidimus mortuam*).

In the figures which accompany this work, it was our wish to have presented all which we had considered as new acquisitions; but the nature of the intention would in some measure have been frustrated, by the representatiou of minute objects; as our design, in this respect, was chiefly explanatory.

Every species which has hitherto been found in the British Islands, we have thought it proper to record, leaving to individual collectors their own ideas of purity as to patriotal adoption.

The practical conchologist will make himself acquainted with all the most probable habitats of his object. With dredgers and trawlers he will carefully examine the produce of their toils, even the pieces of perforated rocks or timber which may be brought up. The sea shores; the under surfaces of loose stones; the minutest crevices of rocks which may be uncovered at low water; the mouths of rivers and their soils, especially when laid bare by the recess of the tide; sandy coves and inlets of the ocean; fine or drifted sand; sea weeds, with their roots; all marine refuse; floating timber, and the bottom of vessels; and even the stomachs of fish.

* *Maton*, Descriptive Catalogue, p. 56.

The

The land and fresh-water kinds will in all situations present themselves. In hedges and ditches; in streams and stagnant waters; in the crevices of rocks and old walls; in the clefts of the bark and at the roots of trees; in arid plains and upland meadows, after the grass has been mown; in woods and marshes, and on mountains; under stones and fallen timber; on the leaves and at the roots of plants; and under the top stones of the loftiest buildings.

To assist his pursuits in the accomplishment of these ends, it will be necessary to be provided with a small conchological apparatus, easily portable. A chisel and hammer; a knife and a saw; boxes and bags for the preservation of minute species; a pocket magnifier, with two or three powers; a spoon, such as is described in Brown's Elements, five inches long and three and a half wide, of an oval shape, with a rim about an inch in height, and a hollow handle by which it may be put on and taken off the end of a stick or umbrella: this implement is well adapted for the collection of fresh-water shells, and sifting fine sand.

Live shells are always preferable to dead ones: and the animals of the spiral kind may be easily removed, by putting them first into hot water and afterwards into cold to diminish their bulk, when they may be carefully removed by a pin or other pointed instrument. Sea shells may be soaked in fresh water for a night, to dissolve any salt particles which might corrode them. Before they are placed in the cabinet, wash them well with a small brush in soap and water; and if a polish be necessary,

two drachms of gum arabic or gum mastich, dissolved in two ounces of spirits of wine, will make a light transparent varnish, easily to be washed off. And to remove the outer coat of the Trochi, or such as it may be the wish to preserve in an uncoated state, the muriatic acid, diluted with water according to the strength of the shell, may be used; and afterwards to give the highest lustre, the manual operation of rubbing with pumice stone, tripoli, or rotten-stone. Specimens should also be collected in their different stages of growth; for the young of many shells have so different an appearance from their full-grown state, as to be often mistaken for distinct species.

The more minute ones, as soon as they are ascertained, may be fixed by gum water on black or white cards, according to the opposition of their colors, labelled with their generic and specific names, and their exact habitats, with the addition of *v.* or *m.* to signify whether they have been procured in a living or a dead state.

It has also been our habit to place a mark in the margin of the descriptive work we generally use, against the species as it first occurred to us, by which, at one view, we distinguish such as we possess, and such as are among our desiderata.

CONCHOLOGICAL AUTHORS.

THE following works, to which we have generally and almost exclusively referred, and of which we will endeavour to give a short account, will probably furnish a library fully competent to all the purposes of a complete knowledge of British Conchology, both in description and delineation, as far as it has hitherto been illustrated. The learner may also avail himself of the Elementary Introductions of Brooks, Brown, or Burrow.

Brown, Wern. Soc. Account of the Irish Testacea; by Thomas Brown, Esq. F.L.S.—M.W.S.—M.K.S. &c. in vol. ii. part 2. of The Memoirs of the Wernerian Society, with a plate of some new and rare subjects.

We are anxious to correct an error, for which, as it may have originated in our own carelessness, we cannot but consider ourselves in a great measure responsible. Among a parcel of shells which we transmitted to Captain Brown, as collected on the Irish coasts, there was by accident included the spiral termination of Serpula lumbricalis, which he has figured and described under the name of Turbo pentangularis.

Da Costa. The British Conchology, by Emanuel Da Costa, quarto, 1778, with 17 colored plates. One of the truly original works on this subject. One hundred and twenty-seven species are well delineated, and many more faithfully and minutely described, both in English and French, all from the subjects themselves. The arrangement is not according to the Linnéan system; but it possesses the rare, and we believe unique, excellence of giving the whole of the synonyms in the words of the respective authors themselves.

To the student who may wish to compare his specimens with the figures of this author, it may be proper to remark, that

that in the eighth plate, the figures 1 and 3, of Turbo Pullus—2, of Voluta tornatilis—4, of Murex costatus—5, of Buccinum lineatum—6 and 9, of Turbo Cimex—7, of Murex Erinaceus—10, of Turbo striatulus—12, of Turbo Lacunâ—13, of Murex reticulatus—and 14, of Strombus costatus, are erroneously represented as having the volutions reversed: and that all these errors have been copied in the fourteenth plate of the Dorset Catalogue.

Dillwyn. A Descriptive Catalogue of recent Shells, arranged according to the Linnéan method, by Lewis Weston Dillwyn, F.R.S. and F.L.S. in two vols. octavo, 1817.

Of a forcible and comprehensive intellect, Mr. Dillwyn has already given sufficient proofs. In his present work, however, we cannot resist the suspicion, that he has yielded much to conjecture, and formed his specific characters, more in accommodation to his own opinions than strict precision will justify.

Tellina Radula and Venus spuria are united, with the specific characters of each combined together. Both the species are before us. The former is dull brownish white, with numerous rough rasp-like transverse ridges, without the longitudinal groove or flexure on the anterior side, where the margin runs in a straight direction from the beaks; the inside is slightly striate longitudinally, with two primary teeth only in each valve. The latter is glossy-white, with a few transverse wrinkles, and a longitudinal groove down the anterior side, where the margin is rounded from the beaks; and the inside has no longitudinal striæ, with three primary teeth in each valve. The Solen vespertinus of modern authors, is referred to the Tellina albida of Linné, with the observation that it answers to the description in the Systema Naturæ; a correspondence which we cannot exactly acknowledge. The T. albida is described as smooth, and having three teeth in each valve. The Solen vespertinus is transversely striate, and has a single tooth in one valve and two in the other. Our Tellina tenuis, which has a single cloven tooth in one valve, and two in the other, with a minute lateral tooth in one valve only, is referred to the T. balaustina of Linné, omitting to observe, that this last is described as having lateral *teeth* in one valve; *valvulâ alterâ dentibus lateralibus.* His Venus rigida,

gida, and the V. Casina, we believe to be the same species; and also the Trochus papillosus, and Tr. Granatum.

These and some other circumstances have inclined us to forbear the adoption of his numerous alterations, in many of which we have conviction he is in error.

For a future edition of his work, we will venture to give Mr. Dillwyn a few hints; and they are meant as friendly ones. Conus Thomæ should be C. Omæ, or after Bruguiere, C. Omaicus: St. Thomas being a corruption of St. Oma's, or of the island from whence it is procured. See Calonne's Catalogue, p. 15. n. 239, whom Mr. Dillwyn has misnamed Callone through his work. In the description of Murex scriptus, we think the words striæ and stripes are used as synonymous. At p. 999, the reference to Da Costa's British Conchology for a figure of Nerita plexa, should probably be to Da Costa's Elements. And it is among the errors which have been copied from Maton and Rackett's Descriptive Catalogue, to affix the letter A in the quotations from Lister's figures, as at p. 895. It has no relation whatever to the plate or the figure, but merely signifies that Lister knew it to be English, *Anglica*.

In his attempts to criticise the characters as established by Linné, we do not think Mr. Dillwyn has been very fortunate. The Buccinum Glans he considers as incorrectly described with two teeth on the pillar-lip, observing that he has never been able to find more than one. In the specimens now before us, and in all which we have examined, there are evidently and visibly two teeth at the upper angle of the pillar, the lower of which is much smaller; besides a strong tooth-like projection pointing outwards near the base. He doubts the propriety of the term, *apice spirali acuto*, as applied to the Serpula lumbricalis, suspecting that the spiral end is the part by which it is affixed. A slight glance at any one specimen would have satisfied Mr. D. that the larger and open end is attached at the different points of contact, caused by its undulating surface, and that the spiral part is detached and nearly erect, as is well represented in Lister's plate. The closed and pointed end of a taper univalve shell is its proper apex. And had Mr. Dillwyn well examined the Helix stagnalis, one of the most common of our fresh-water shells, he would not have expressed

expressed his wonder at the exquisitely finished character by Linné, who describes it as being somewhat angular. We shall also feel pleasure in convincing Mr. D. that some species which he has thought proper to expunge from the system, as unworthy of his notice, although they may be of great rarity, have actual existence in our cabinet.

In the transfusion from one language to another, Mr. Dillwyn is often so entirely mistaken, as to destroy all specific identity. Thus, in the character of Solen Ensis, *cardine altero bidentato*, is rendered "hinge with a double tooth in each valve." In Solen amethystus, *cardine altero bidentato*, is translated, "hinge with two teeth in each valve." In Chiton Gigas, *valvâ primâ crenata, postremâ dentatâ, mediis emarginatis*, is rendered, "the first valve crenate, the last toothed, and the intermediate ones entire." And we differ both from Mr. D. and Mr. Wood, in their interpretation of the character in Solen minimus, *cardinibus lateralibus, bidentatis, alterius bifido*, "hinge lateral, with two teeth, one of which is bifid," rather supposing the meaning to be, that there is a bifid tooth in one valve only.

Mr. Dillwyn's work offering nothing more than a collation of different authorities, arranged upon his sole judgement, must claim a credit in proportion to the diligence and the fidelity with which these powers have been exercised. With means and facilities which can fall to the lot of very few writers upon natural history, and without the possession of which, this compiler has condemned all others to ignorant obscurity, we were something surprised at his neglect of the fine work on American conchology, by Mr. Jay, in the Philadelphia Encyclopædia; the beautiful plates of Perry; and even the latter volumes of the Linnéan Society.

Of the celebrated manuscripts left by Dr. Solander, we learn little more than what we have long known from the Portland and Calonnian Catalogues.

We will likewise venture to remark, that the diligence was not well awakened, when it referred to Lister's plates 667. f. 11, and 670. f. 16, both for Cypræa cinerea, and the young of C. Vanelli; the plate 825. f. 45, for Voluta rustica, and also for V. Tringa; the plate 852. f. 8, for Strombus sulcatus, and again for Str. vittatus; the plate 1012. f. 76, for

for Buccinum Areola, and B. Saburon; the plate 116. f. 11, for the young of Strombus ater, and also for Helix fuscata; and the plate 121. f. 16, both for Strombus auritus, and Murex torulosus: when, of our native catalogue alone, it obliterated from the system the following species, all of them well known to and described by Montagu, and most of them figured. Lepas cornuta; Mya striata; Donax rubra; Venus substriata; Nautilus inflatus; N. concameratus; Bulla membranacea, B. tentaculata, B. flexilis; Voluta hyalina, V. bulloides, V. heteroclyta; Murex accinctus; Turbo dispar, T. Zetlandicus, T. disjunctus, T. nitidissimus, T. truncatus, T. subtruncatus, and T. Margarita: besides a whole division of the most curious and remarkable subjects in the natural history of the British Islands, giving it as a reason for their exclusion, that they are little ones. More, much more we could add; but we trust that enough has been said to induce a strict revision of the whole work, before it can be received with any degree of confidence, or admitted as of any authority.

Donovan. A Natural History of British Shells, by Edward Donovan, 7 vols. octavo, 1799, &c.

Beautiful and correct colored portraits of nearly the whole of the British shells, which may be examined without the assistance of glasses. A work well adapted for a school-library.

Dorset Catalogue. A Catalogue of the Birds, Shells, and some of the more rare Plants of Dorsetshire, from Pulteney's edition of Hutchins's History of that County: with additions by the Rev. W. Rackett. Folio, with twenty-three quarto plates of shells, 1813.

A republication of Da Costa's plates, with six additional ones, omitting some of Da Costa's figures, and inserting others, corresponding with the locality of the subject. The plates contain about 230 figures of British shells, and the letter-press gives a brief description of them.

Laskey, Wern. Soc. A Catalogue of the Shells of North Britain, with a colored plate representing 17 rare species, by Captain Laskey, in the first volume of the Memoirs of the Wernerian Society.

Linn. Trans. Transactions of the Linnean Society. Quarto. In these volumes are to be found some scattered papers

papers on the British Testacea; especially the excellent observations on the hinges of bivalve shells, in the sixth volume, by Mr. Wood. Maton and Rackett's Descriptive Catalogue, in the eighth volume, is subsequently mentioned.

Lister. Huddesford's edition of Lister's Historia Conchyliorum. Folio, 1770.

The basis and ancient foundation of all good Conchology. This admirable volume contains one thousand and fifty-five plates, besides twenty-one of anatomical figures, all drawn from original specimens by his two daughters, Susanna and Anna. Considering the state of natural science at the time this work was first issued, one hundred and thirty-three years since, it is impossible to contemplate this stupendous effort of genius and industry, without admiration at the grandeur of the design, and the correctness of its execution. Some of the plates, especially the anatomical ones, are of matchless excellence. And it is gratifying to recollect, that the original drawings are preserved among the archives of the University of Oxford. His Historia Animalium Angliæ, and its appendix, are now of rare occurrence.

Maton and *Rackett.* A descriptive Catalogue of the British Testacea, by W. G. Maton, M.D. V.P.L.S. &c. and the Rev. Thomas Rackett, M.A. F.L.S. &c. in the eighth volume of the Linnean Transactions; with six colored plates.

A transcription of the words of Linné, with an attempt at a translation of the words of Montagu. Of a production which for ten years has been considered as possessing the rare value of decisive authority, we will adventure to examine the merits, as it may prevent the frequent repetition of our own remarks, and exhibit a memorable caution to future writers against too much dependence upon confident pretensions.

It is probable that the whole art of typography cannot produce so gross a mass of errors. This is the more remarkable, as their paper was subjected to the usual examination of a committee of science, and was publicly read before the Society by the principal author himself. The list of *corrigenda* also, though unusually voluminous, and bearing evident marks of an anxious amendment of their work in its

its passage through the press, itself wants a corrigenda corrigendorum, and is not always intelligible.

From the Vice-President of the Linnéan Society we had hardly expected, at this day, the absurd and antiquated method of admeasurement, in comparing these subjects to a nut, a goose-egg, a pea, an oat, a walnut, an almond, an olive, a grape, a tick or horse-bean, a cabbage-seed, &c. Much less that we should have been doomed to construe such latinity as at p. 193. "anfractus quatuor teretes, striis longitudinalibus subtilissimis manifestis, transversis:" and at p. 242. "cum præcedens umbilicum parvum habet."

But our strongest mark of censure must point at the loose habit of gathering synonyms, without reference to the original works, however easily accessible, and thus making error continuous, and as it were biblically hereditary, to the never-ceasing confusion of science.

We are by these writers solemnly warranted, "that in the synonyms and references, it has been their most sedulous endeavour not to mislead, either by transcribing upon trust from other authors, or by quoting such as are ambiguous, or imperfect." A pledge, which while the hand was recording, the heart must have known it to be in error. In conviction we produce the third plate of Da Costa's British Conchology, where of the eighteen figures there exhibited, seventeen are quoted wrong, manifestly from that cause which they assert it has been their endeavour so sedulously to avoid. If the student, with this Descriptive Catalogue for his guide, and Da Costa for his book of reference, would arrange his cabinet, he is instructed to refer to the figures of Trochus cinereus and Tr. cinerarius, as delineations of Tr. papillosus: to the figures of Trochus papillosus and Tr. umbilicatus, for Tr. ziziphinus: and for a figure of Trochus umbilicatus, to the representations of Nerita litoralis and N. fluviatilis. As for the numbers referred to for Tr. cinereus, Tr. cinerarius, Nerita litoralis, and N. fluviatilis, they are in nubibus, and will not be found in Da Costa. These errors have originated in transcribing from Pulteney's plates, where the numbers were sometimes altered. Yet have they been mostly copied in Mr. Rackett's edition of the Dorset Catalogue, and yet has Mr. Dillwyn continued them to the present day.

Da Costa has evidently been collated through subsequent writers. His figures of Lepas anatifera, and Turbo Lacuna are omitted. Turbo labiatus, and T. nigricans are both referred to the same description, omitting his figure. His Venus verrucosa, and V. Casina, are confounded together. And it may possibly be an error of transcription, that the figure of Mactra truncata is referred to for Mactra solida, of Mya Pictorum for Pholas crispata, and of Lepas anatifera for Solen Siliqua.

In looking casually over their references to Lister, whose noble volume we have been in the habit of examining for nearly thirty years, we were something puzzled to know what was meant at p. 86, of the Descriptive Catalogue, by a reference to Lister's Conchology, p. 1113; till turning to the Systema Naturæ, we found that the subject under description was at p. 1113, and 1114 of Linné, one of which pages they had given in its place, and had transferred the other to Lister's Conchology. The figure they refer to for Lepas Scalpellum is L. pollicipes: the figure quoted for Mya Pictorum is M. Batava; and the same plate is referred to for Arca pilosa, and A. Glycymeris. Such is also their most strange misconception and perversion of Lister's numbers, that the plate referred to for Pholas candida is Venus Dysera; the plate referred to for Pholas crispata is Venus Paphia; and to complete this climax of ridiculous blunders, the plate referred to for Donax complanata is Chama Gigas.

Montagu. Testacea Britannica, or a Natural History of British Shells, and Supplement, by George Montagu, F.L.S. in 3 vols. quarto, with thirty plates, 1803.

To this laborious and lyncean naturalist, who that of late has studied this elegant department of the Fauna of these islands, is not indebted for the greater part of his knowledge! The pages of the present work, as well as the pages of all who have written on the subject since his publications, bear large testimony of his diligence and accuracy. In the thirty plates and vignettes are figured about 230 species of the more rare and minute shells, all drawn and engraved under his immediate inspection, from original subjects in his own possession, and generally of his own collection. His cabinet of the natural history of the British islands

islands is now very properly placed in the British Museum: and we may venture to predict, that a fine paper copy of his work, with the plates colored, will in no long lapse of time bear a great price.

Pennant. British Zoology, by Thomas Pennant, Esq. 4 vols. octavo, with plates, 1812.

A new edition by his son. The fourth volume contains the Testacea, with fifty-nine plates of shells, and specific descriptions of each species, interspersed with those stores of erudition with which the venerable and respectable author occasionally enriched the subjects of his contemplation. Pennant was the first who reduced the British Conchology to the Linnéan classification, and reformed the language: and it is an anecdote not generally known, but justly deserving of record, that the original edition of this work, in folio, was undertaken and completed at his sole expense, for the benevolent purpose of assisting the Welsh Charitable Institution in London.

Walker. Testacea minuta rariora. By G. Walker. Quarto; with three plates, 1787.

We are first indebted to the researches of this author, assisted by Mr. Boys, for an inquiry into the diminutive but singularly elegant and beautiful species of shells, which had been before considered either as unimportant, or beneath the trouble of collection and arrangement. In his work are figured eighty-seven microscopic subjects, with short descriptions. His eighty-eighth and eighty-ninth figures represent two new species of Echinus, which we have collected both on the English and Irish coasts. Mr. Pennant the younger, at p. 140. pl. 38. f. 1, 2, 3. of his fourth volume, has described and figured the former of these, under the name of Echinus Pulvinulus, as a new discovery, not aware of Walker's previous claim. But the scattered fragments of general science it is not always easy to gather together. The excellent Montagu could have no remote suspicion, that the Fasciola Trachea, or poultry-worm, described by him in the Transactions of the Wernerian Society, had been known to us for nearly twenty years, and is described and figured in the Gentleman's Magazine. It might not have been known to Curtis, that the natural history of the Aphis and the honey-dew was the discovery

of a French naturalist, a translation of whose paper on this subject is printed in one of the early volumes of the Annual Register. And when Sir Joseph Banks gave his history of the introduction of the Potatoe, in the Transactions of the Horticultural Society, from the notes of Dryander, he was not aware that the same matter had been detailed in Thralkeld's Synopsis Stirpium Hibernicarum.

Wood. General Conchology, by W. Wood, F. R. S. and F. L. S. Volume the first, octavo, 1815.

This excellent and scientific volume contains sixty colored plates, explanatory of the Genera Chiton, Lepas, Pholas, Mya, Solen, Tellina, and Cardium, with descriptions at large, besides much useful and explanatory matter. Mr. Wood possesses a clear and comprehensive knowledge of the subject, with a peculiar felicity of delineation and description. And we will not abandon the hope, that this respectable author will be eventually induced to a continuation and completion of so great and desirable a design.

If in the foregone short examination and appreciation of individual merit, it shall be objected to us that we have indulged ourselves in asperity of censure, let it not be forgotten, that it is our duty, as far as we are able, to purify the polluted sources of intelligence and record, to point out gross and indesinent error, and to give every bird his proper feather. Our reverence for truth, and regard for accuracy, will at all times supersede our personal respect, perhaps our courtesy. To such discipline we cheerfully submit our own labours, and shall thankfully acknowledge the correction of our errors; solicitous only for that χαρις μισγουσι which the dignity of sound learning can alone bestow.

One word more to the strict disciples of the Linnéan school. It does not as yet seem decided in what manner to write the denomination of this mighty Coryphæus of natural history. In Sweden the termination us is an affix to plebeian names only. After his enrolment therefore, among the ranks of nobility, it was consequently exchanged for Von Linné, or a Linné, exchanging the diphthong. In strict propriety then, it should be Linné for his name; Linnéan for what appertains to his name; and Linnéa borealis for his plant.

EXPLANATION OF TERMS.

INNOTINATE. Depressed lines, placed at irregular dinces across some of the bivalve shells, to mark their yearly owth; as in the common cockle.

Annulate. Marked with circular rings.

Anterior side, or *slope.* That side of bivalve shells to which e cartilage, connecting the valves, is attached.

Antiquated. Marked with the lines or furrows of annual owth.

Aperture. The mouth or opening of univalve, and some altivalve shells.

Auricles. Small ear-like appendages placed at the sides of e hinge of some bivalve shells; as the Scallops.

Base. The bottom of the shell. It must be observed, that e base of a spiral shell supposes it to be placed with the outh downwards, and the point or tip upwards.

Beak. The points above the hinge in bivalve shells are in is work called the beaks. In general it means any point or ojection.

Bivalve. A shell with two valves only.

Breadth. The distance from one side of a shell to the other, id not from the hinge to the margin: as in some of the Solens the breadth is three or four times as much as the length.

Canal. An elongated hollow projection from the mouth, in most of the Murex tribe; or an excavated groove down e pillar-lip.

Carinate. Furnished with a keel-like elevated ridge.

Cartilage. The tough membrane which connects the valves the shell together.

Cartilage side, or *slope.* That side of the shell where the cartage is placed.

Ciliate. Furnished with a kind of fringe.

Complicated. Folded together in an irregular manner.

Compressed. Flattened in the valves.

Concentric. Running parallel from one side to the other, t not longitudinally, or from the hinge to the margin.

Confluent. Running into each other.
Convolute. Rolling regularly over each other.
Coriaceous. Of a tough leather-like substance.
Crenate. Notched in a rather undulating manner.
Crown. The top of the shell.
Cylindrical. Elongated and rounded, and of equal diamete throughout.
Decorticated. Worn down, as if by accident or design.
Decussate. Furnished with fine lines both lengthways an across.
Denticles. Small tooth-like protuberances.
Denticulate. Furnished with denticles.
Dorsal. Appertaining to the outer-surface, or back part c the shell.
Duplicature. A fold tending backwards.
Ears. Appendages on the sides of the hinge, as in most c the Scallops.
Effuse. Having the aperture extending from one end of th shell to the other, and open at both extremities.
Emarginate. Notched.
Ferruginous. The color of rust or iron-mould.
Flexuous. Running in a waved or indented manner.
Fusiform. Shaped like a spindle; swollen in the middl and tapering to each end.
Gape. The opening in some of the bivalve shells, when th valves are closed.
Genus. A separate family, distinguished from all others b certain permanent marks, called generic characters, and t which all such belong as are furnished with these character as the bivalves are known by the hinge and the teeth.
Glabrous. Quite smooth, and without wrinkles, lines o ridges.
Granular, or *Granulate.* Covered with pimples or sma wart-like protuberances.
Gutter. The elongated projection beyond the mouth i some of the Murex tribe.
Habitat. The natural local habitation of a shell, or the plac where it is generally found.
Hinge. The upper part of bivalve shells, where the teet and connecting cartilage are placed.
Hyaline. Transparent like glass or water.
Inflected. Bending inwards.
Imbricate. Lying over one another, like the tiles of a house.
Involute. Turning or rolling inwards.

Irregula

Irregular. With the spires reversed, or turning from left to right when the shell is placed with its mouth downwards.

Juncture, Junction. The circular line, where one volution or turn of a spire meets another.

Laminæ. Small thin layers, or plate-like teeth.

Lanceolate. Shaped like the head of a spear.

Lateral. Placed on one or both sides.

Length. Extending from the hinge to the opposite margin; as in some of the Solenes the length is not one-third of the breadth.

Linear. Extremely narrow in proportion to its breadth, and of nearly equal diameter throughout.

Lip. A projection or extension: the margin of the mouth of a spiral shell.

Lobe. A rounded division.

Longitudinal. Extending from the hinge towards the front margin, or from the tip to the base.

Membranaceous. Extremely thin, like a membrane.

Multivalve. Having more than two valves.

Nacred. Highly polished and lustrous, like mother of pearl.

Ob In construction means reversed: as obconic is the resemblance of a cone reversed; oboval a reversed oval.

Opake. Not in the smallest degree transparent.

Orbicular. Quite round or circular.

Pillar. The support which passes through the centre of a spiral shell, and round which the volutions turn.

Posterior. The hinder slope or margin of a bivalve shell, is the side opposite to that where the cartilage is placed.

Radiate. Furnished with rays, proceeding either from the centre, or the hinge to the margin.

Reflected. Turned backwards.

Regular. With the volutions turning from the right to the left when the shell is placed with its mouth downwards.

Reversed. Applied to a spiral shell whose volutions turn in a contrary direction to the generality of shells; that is, whose volutions turn from the left hand to the right. Hold up a spiral shell with the tip or smaller end upwards, and the aperture towards you; if the mouth or aperture be placed on the right hand of the pillar, and the volutions wind round in that direction, it is called a regular spire; but if the mouth be placed on the left hand of the pillar, and the volutions follow that direction, it is a reversed or irregular shell.

Reticulate. Ribbed or marked both lengthways and across, so as to form a kind of network.

Retuse.

Retuse. Bending a little backwards.

Revolute. Folded or rolled a little outwards.

Semitransparent. Not perfectly transparent, nor quite opake.

Serrate. Notched like the teeth of a saw.

Spatulate. Shaped like a spatula or battledore.

Species. The individual of a family or genus, and distinguished from all others of its tribe by permanent marks, called specific characters.

Spire. The body of a shell which consists of separate turns or volutions connected by a spiral line. In this work it is used for the separate and several volutions themselves.

Striæ. Fine concave or raised lines.

Striate. Furnished with striæ or fine lines.

Sub. In composition means inclining to, but not quite distinctly marked: as subopake means almost opake; subcylindrical, somewhat or nearly cylindrical.

Subulate. Tapering to a very fine point, like an awl.

Summits. The points above the hinges in bivalve shells: the beaks.

Synonym, Synonymous. Names applied by different authors to the same thing: as the Cardium rubrum of Montagu is a synonym or synonymous with our Tellina rubra.

Testaceous. Consisting of shelly matter: composed of the materials which form shells.

Transverse. Marks which run across the shell, or from one side to the other; in opposition to longitudinal ones.

Truncate. Appearing as if abruptly cut off.

Tubercled. Covered with small wart-like knobs or protuberances.

Tubular. Perforated all through, and open at both ends.

Tumid. Swelling or bulging out

Umbilicate. Furnished with a hollow indentation or perforation.

Undulate. Proceeding in an irregular or wave-like line.

Univalve. Consisting of a single valve or piece.

Valves. The several compartments or pieces of which the whole shell is composed.

Volutions. The distinct turns of a spire, each of which is defined by the line of separation or junction.

Whirl. The same as volution.

ESSENTIAL GENERIC CHARACTERS.

A. *With more than two valves.*

1. CHITON. Shell boat-shaped, with several valves disposed in a transverse manner along the back, and incumbent on each other at their front margin.

2. LEPAS. Shell attached to other substances, with several erect unequal valves.

3. PHOLAS. Shell with two larger primary valves, gaping at both extremities, and one or more lesser valves about the hinge: teeth long, curving inwards, one in each valve on the inside.

4. TEREDO. Shell with two primary hemispherical valves, attached at the posterior end to a cylindrical testaceous tube; teeth long, curving inwards, one in each valve on the inside.

B. *With two valves.*

5. MYA. Shell generally gaping at one end: hinge with mostly a single strong broad tooth, not inserted into the opposite valve.

6. SOLEN. Shell oblong, open at both ends: hinge with a reflected subulate tooth or two, not inserted into a groove of the opposite valve.

7. TELLINA. Shell with the cartilage side generally sloping, or curved to one side: hinge with usually three teeth; the lateral tooth in one of the valves flat, or nearly obsolete.

8. CARDIUM. Shell with the valves equal, mostly ribbed longitudinally and toothed round the margin: hinge with two teeth near the beaks, and a lesser remote one on each side, locking into the opposite valve.

9. MACTRA. Shell with equal valves, generally unequal at the sides: middle tooth of the hinge complicated, with a small hollow on each side; the lateral teeth remote, and locking into the opposite valve.

10. DONAX. Shell with the cartilage side very obtuse and abrupt: hinge with two teeth in the middle, and a single remote lateral one.

11. VENUS.

11. Venus. Hinge with three teeth, all near together; one of them placed longitudinally, and inclining outwards.

12. Chama. Hinge rugged and gibbous, with the teeth locking obliquely into the opposite valves.

13. Arca. Hinge with numerous teeth, alternately locking within each other.

14. Ostrea. Shell with the valves generally unequal: hinge without teeth, but furnished with a cavity in the middle, and generally lateral grooves.

15. Anomia. Shell with unequal valves; one of them usually flat and perforated near the hinge, through which it is fixed to other substances: hinge without teeth; an oblong transverse projection on the flat valve connecting them by a strong cartilage under the beak.

16. Mytilus. Shell generally fixed by a mass of silky filaments: hinge without teeth, marked by a longitudinal groove which is sometimes finely notched.

17. Pinna. Shell brittle, gaping at the larger end, and fixed at the other by a mass of silky filaments: hinge without teeth; the valves connected by the cartilage nearly the whole breadth.

C. *With a single valve.*

1. *More or less spiral.*

18. Nautilus. Shell with several compartments or cells, communicating with each other by means of a small tube or perforation.

19 Cypræa. Shell involute, oval, obtuse at both ends: aperture very narrow, reaching the whole length of the shell, and toothed on both its edges.

20. Bulla. Shell convolute, without teeth: aperture contracted, oblong, reaching nearly or entirely the whole length of the shell, without beak, entire at the base: pillar oblique, smooth.

21. Voluta. Shell more or less spiral: aperture narrow, extending much down the shell, without beak: pillar plaited or toothed.

22. Buccinum. Shell spiral, gibbous: aperture oval, ending in a canal leaning to the right hand.

23. Strombus. Shell spiral: aperture ending in a canal leaning to the left; the outer-lip more or less expanded.

24. Murex. Shell spiral, often rough with folds or protuberances: aperture oval, ending in a straight canal, which is sometimes a little reflected.

25. Trochus. Shell spiral, more or less conic: aperture a little

a little angular or rounded, and contracted transversely: pillar placed obliquely.

26. TURBO. Shell spiral, solid: aperture contracted, entire, more or less orbicular.

27. HELIX. Shell spiral, more or less transparent and brittle: aperture contracted, roundish or crescent-shaped.

28. NERITA. Shell spiral, gibbous, flattish underneath: aperture half orbicular; the pillar-lip transverse, flattish and truncate.

29. HALIOTIS. Shell ear-shaped, almost entirely open, with a longitudinal row of orifices towards the outer margin: spire lateral, flat upon the back.

2. Without spire.

30. PATELLA. Shell shaped like a bason, more or less conic, generally without spire.

31. DENTALIUM. Shell linear, tubular, not divided into chambers, open at one or both ends.

32. SERPULA. Shell tubular, variously shaped, sometimes separated by internal divisions at irregular distances.

ENGLISH AND LATIN NAMES OF TH GENERA.

Acorn-shell	*Lepas.*
Ark-shell	*Arca.*
Barnacle	*Lepas.*
Bowl-shell	*Anomia.*
Canoe-shell	*Chiton.*
Cockle	*Cardium.*
Cowry	*Cypræa.*
Creepet	*Serpula.*
Dipper	*Solen.*
Gaper	*Mya.*
Heart-cockle	*Chama.*
Limpet	*Patella.*
Mactra	*Mactra.*
Mussel	*Mytilus.*
Nacre	*Pinna.*
Nautilus	*Nautilus.*
Nerite	*Nerita.*
Oyster	*Ostrea.*
Piddock	*Pholas.*
Razor-shell	*Solen.*
Rock shell	*Murex.*
Scallop-shell	*Ostrea.*
Screw-shell	*Strombus.*
Sea-ear	*Haliotis.*
Ship-worm	*Teredo.*
Snail-shell	*Helix.*
Tellen	*Tellina.*
Tooth-shell	*Dentalium.*
Top-shell	*Trochus.*
Turban	*Turbo.*
Venus	*Venus.*
Volute	*Voluta.*

A

NCHOLOGICAL DICTIONARY

OF

THE BRITISH ISLANDS.

ANOMIA. *BOWL-SHELL.*

: with two unequal valves; one of them flat and perforated near the hinge, through it is fixed to other substances: hinge with-th; a transverse oblong projection on the ve connecting the convex one by a strong ge under the beak.

omia electrica. *Amber Bowl-shell.* Fig. 67.
, pl. 205. f. 39.
ia pellucida. *Brown, Wern. Soc.* p. 514.
thin, brittle, transparent, glassy round the edges, at orbicular, a little distorted but not undulated he circumference; the upper-valve convex, and ng rugged or irregularly wrinkled on the outer sur-der-valve flat and scaly, with a large perforation hinge: color bright yellow, or amber, with more f a greenish tinge, and becoming yellowish-white ch exposure to the air: beaks pointed, hardly reach-he margin, which is rounded: inside bright glossy diameter an inch and a quarter.
fers from A. Ephippium in color, in having the up-e much more convex, and not so irregular round umference.
of Ireland, and England, and Dublin bay. *v. v.*

2. Anomia Ephippium. *Wrinkled Bowl-shell.*

Lister, pl. 204. f. 38—*Pennant*, pl. 65. upper fig.—*Da Costa*, pl. 11. f. 3—*Linn. Trans.* vi. pl. 18. f. 11, 12—*Donovan*, pl. 26—*Dorset Cat.* pl. 11. f. 3.

Shell thin, more or less transparent, rather convex, rounded, irregularly wrinkled and plaited, and often indented on the margin; the outside dirty white, or of a brownish cast; inside perlaceous; beak small pointed, curved, and reaching to the end of the margin: the flat valve with an oblong rather oblique perforation close to the hinge, which is generally cut off by the margin of the upper valve, and often taking the impression of shells and other substances to which it may be attached: diameter hardly three inches.

Variety A. Reversed, or with the convex valve perforated.

Variety B. Thick, strong, somewhat orbicular, but a little produced on one side, quite even round the circumference and not wrinkled nor plaited; the upper-valve a little rugged on the outside, and scaly towards the margin: color dull white with a slight tinge of purple, and of a most rich pearly lustre when the outer coat is removed: beak reaching close to the margin, which is rather rounded; inside finely polished, of the most splendid perlaceous lustre, with a tinge of dark green towards the produced side: lower valve a little concave, thin, transparent, perlaceous except round the margin of the aperture, which is large oval and extending to the hinge: length two inches and a quarter; breadth two and a half.

This most beautiful shell, by far exceeding the finest pearls we have ever seen in the richness and splendor of its iridescent gleams, was brought to us from Torbay in the autumn of 1817. Beneath the cartilage impression are two oblong cavities, about a quarter of an inch in length, evidently the lodgement of pearls: and it is probable, that if the larger species of this family could be procured from the deeps of the ocean, the most valuable pearls might be obtained from them. Our knowledge of this shell being confined to this single specimen, we can for the present only consider it as a variety.

Variety C. Of a triangular shape, appearing as if regularly

larly cut down the sides and leaving the front margin a mere obtuse point, rough on the outside but not irregular nor undulate, white with a tinge of pale purple: upper valve convex, slightly inflected both at the beak and front margin: beak a little projecting, and curved over the lower valve, which is rugged with a large perforation near the summit: length an inch and a quarter; breadth at the hinge an inch.

This singular variety, if it be only a variety, we have found both in Dublin bay and the south of Devon; and it may be remarked, that the oval perforation of the under valve points in an opposite direction to that of A. Ephippium.

On most rocky coasts. *v. v.*

3. Anomia Squamula. *Scaly Bowl-shell.*

Walker, f. 80—*Dorset Cat.* pl. 13. f. 4.

Shell rounded, smooth, regular and entire at the margin; the upper-valve nearly flat, with a small beak projecting beyond the margin, very thin, transparent, dirty white or horn color; inside silvery, or tinged with green; under valve extremely thin and filmy, like the scale of a fish, often wrinkled or ribbed and a little concave, perforated near the hinge: diameter about half an inch.

We have found this shell full an inch in diameter, and with the surface quite smooth: on the other hand we have the A. Ephippium from two-tenths of an inch to more than three inches in diameter, all of them preserving the irregular undulations of the margin. These circumstances, together with the different appearance of the beak, which always projects beyond the margin, make us consider it as a distinct species.

On stony or rocky coasts. *v. v.*

4. Anomia Cepa. *Onion-peel Bowl-shell.*

Shell with the upper-valve very convex or semiglobular, sometimes inclining to oval, very slightly wrinkled, of a glossy reddish-violet color, not unlike the coat of an onion; lower-valve nearly flat, and perforated near the hinge; inside glossy pale violet: diameter about an inch.

On the English and Irish coasts. *v. m.*

5. Anomia aculeata. *Prickly Bowl-shell.*

Montagu, pl. 4. f. 5.

Shell roundish, or inclining to oblong, sometimes wrinkled, thin, transparent; the upper valve flat, covered with concave scales disposed in longitudinal rows, which enlarge towards the margin, with a small and somewhat inflected beak; lower-valve scaly, smooth, or a little spinous towards the margin: color dirty white, brownish or yellowish, silvery within; the perforation near the hinge: diameter about a quarter of an inch.

In the many specimens which we have examined from the English and Irish coasts, both loose and attached to the roots of Fuci, we have never been able to observe the numerous rows of concentric pores on the under-valve mentioned by Mr. Dillwyn, but have often found this valve prickly for the greater part of its surface.

Southern coasts of England and Ireland. *v. v.*

6. Anomia undulata. *Striated Bowl-shell.*

Lister, pl. 202. f. 36, and pl. 203. f. 37—*Montagu*, pl. 4. f. 6—*Dorset Cat.* pl. 11. f. 4.

Ostrea striata. *Da Costa*, pl. 11. f. 4—*Donovan*, pl. 45.

Shell roundish, more or less inclining to oblong, rather flat, thin and transparent; the upper valve somewhat flexuous and produced on one side under the hinge, like the valves of the Tellina flexuosa, with longitudinal ribs, which in the young shells are regular and quite straight, but in the older ones more or less undulated and branching into each other or divided, especially towards the front, giving the margin a notched appearance; the interstices transversely rugged or striate: beak small, pointed, scarcely reaching to the margin; under-valve thin, flat, scaly, and ribbed, with an oval perforation under the hinge: color whitish or brownish, with more or less of a purple red or yellow cast, and iridescent when the outer coat is rubbed off; inside ribbed, glossy, with usually a dull oblong chalky patch below the hinge: length an inch or more; breadth not so much.

On the English and Irish coasts. *v. v.*

7. Anomia

7. Anomia Psittacea. *Parrot-beak Bowl-shell.* Fig. 42, 43, 44.

Lister, pl. 211. f. 46.

Shell blackish horn-color, semitransparent, oval, rather convex, with numerous very fine regular longitudinal ribs; the sides abruptly turned in and flattened, without the ribs, but marked with a few irregular striæ; the front margin a little indented on each side and projecting in the middle: one valve produced into an elongated incurved and pointed beak, like a parrot's bill; the other oval and rather flat; the perforation somewhat triangular: inside dull greyish-white, with a strong tooth-like projection each side a little below the beak, and which reaches down the incurvature of the sides in a strong rib-like form: length nearly an inch and a quarter; breadth an inch.

A specimen of this very rare shell we found on the shore about a mile to the east of Teignmouth, after a severe gale, and have since seen several broken fragments: but we suspect they come from very great depths. *v. m.*

8. Anomia Terebratula. *Pierced Bowl-shell.*

Da Costa's Elements, p. 292. pl. 6. f. 3.

Shell somewhat oval, thin, brittle, transparent, dirty white, nearly smooth; one valve tumid, truncate, and perforated at the summit, and inflected over the other; the other valve not quite so tumid, and something smaller: length an inch; breadth about three quarters.

A single specimen of this rare shell was dredged up alive in Dublin bay, and was placed in the Museum of the Dublin Society. *v. v.*

9. Anomia Cranium. *Death's-head Bowl-shell.*

Terebratula Cranium. *Linn. Trans.* xi. pl. 13. f. 2—B.

Shell oval, convex, equivalve, thin, brittle, semitransparent, whitish-brown, minutely striate both longitudinally and transversely, giving it a very fine shagreened appearance, with a few irregular concentric wrinkles; the upper valve projecting beyond the lower, nearly rounded in front, where there is a small perforation; inside thickened about the beaks, forming in the larger valve a process on each side for the connecting hinge; under which there is a de-

pression roughened by two or three slight longitud ridges, and in the smaller valve forming a raised transv ridge, which is grooved along the middle, and reflectin the sides for the purpose of receiving the processes of opposite valve, with two small reflected tooth-like pro tions near the middle of the shell, and a small erect on the base of each: length about an inch; breadth se eighths of an inch.

Found by Mr. Fleming in the Shetland Islands: very r

10. Anomia cylindrica. *Cylindrical Boat-shell.*

Anomia cymbiformis. *Linn. Trans.* viii. pl. 3. f. 6.

Shell oblong-oval, thin, semitransparent, brow white, strongly wrinkled or striate transversely, the w kles often rising into thin membranaceous scales w turn downwards and are nearly incumbent on each otl the upper-valve convex, more or less cylindrical accor to the substances on which it is fixed, narrowed towards top, tumid and turned in at the beak over the under v which is flat and perforated near the top; inside gl white: length nearly half an inch; breadth about a t of its length.

We find this shell frequently on the Devonshire c attached to Fuci, consequently of a less cylindrical than when it adheres to Sertulariæ, or the spines of Echinus. *v. v.*

ARCA. *ARK.*

Shell of two equal valves: hinge with numer teeth, alternately locking within each other.

A. *With the margin notched.* 1, to 4.

B. *With the margin very entire.* 5, to 11.

1. Arca pilosa. *Downy Ark.*

Lister, pl. 247. f. 82—*Pennant*, pl. 61. f. 1—*Da C* pl. 11. f. 2—*Dorset Cat.* pl. 11. f. 2—*Linn. Trans* pl. 18. f. 1, 2, and viii. pl. 3. f. 4.

Arca Glycymeris. *Donovan*, pl. 37.

Shell thick, convex, with the sides exactly equal or ra a little flexuous on one side, covered with a dark-br downy skin, particularly round the margin, with obs broad rounded remote ribs, minutely striate both long dir

dinally and across, and marked with a few transverse wrinkles; under the skin whitish, yellowish, or dusky-brown, with angular zigzag chesnut or orange-yellow stripes or lines, which in the younger shells are of a carnation color, often spotted with red; inside white, with sometimes a purplish-brown tinge on one side, and marked with fine longitudinal lines which extend as far as the polished area round the margin: beaks quite central, prominent, not curved to either side nor quite close together at their points: teeth in a curved line, placed obliquely, about twelve on each side the beaks: diameter sometimes nearly three inches.

Southern and western coasts, and Dublin bay. *v. v.*

2. Arca Glycymeris. *Large Ark.*

Lister, pl. 240. f. 77—*Linn. Trans.* viii. pl. 3. f. 3.

Shell much resembling the last, but the sides are not quite equal, one of them being a little produced; in consequence the circumference is not exactly orbicular, nor the beaks quite central.

Specimens of these two species, if they are really distinct, we have examined, from a quarter of an inch in diameter, to three inches and a half long, and three and a quarter wide. In the number of teeth, markings, and external coat they exactly correspond; and we think we can perceive a gradual tendency to a deviation from their exact circular form as they enlarge to the fullest growth, and thus consequently causing the beaks to lose their central position, a circumstance by no means uncommon in many bivalve shells. If our conjecture should turn out eventually to be correct, the A. pilosa must be considered as the younger shell of A. Glycymeris, which latter is of very rare occurrence in these climates. The finest and most perfect series which we have seen are in the cabinet of Mrs. C. W. Loscombe of Exmouth, and were taken on the Devon and Cornish coasts. *v. m.*

3. Arca reticulata. *Reticulated Ark.*

Lister, pl. 233. f. 67.

Arca barbata. *Brown, Wern. Soc.* pl. 24. f. 3.

Shell oblong, somewhat rhombic, rather flat, strong, white,

white, rounded at the posterior end, elongated and a little angular at the other, covered with an olive-brown skin and beset with a marginal beard of strong brown hair-like byssus, with numerous nearly equidistant flat longitudinal ridges which are covered with fine short thickset brown hair, and crossed with numerous fine lines giving it a reticulate appearance; the hollows at the anterior and posterior slopes are also covered with bristles of a dark umber color: beaks nearer one end, pointed and close together; inside rather glossy, with pale rays, and clouded with pale chesnut; the margin finely notched: teeth in a straight line, rather small, but increasing in size as they recede from the centre; length half an inch; breadth rather more than an inch.

It differs from A. barbata, in having the margin notched, and in being a little angular on the anterior side.

A perfect specimen was found alive, adhering to an oyster, from Killinchy in Lough Strangford, Ireland, by Dr. Macgee of Belfast.

4. Arca Nucleus. *Silvery Ark.* Fig. 1, 2.

Da Costa, pl. 15. f. 6. right hand fig.—*Linn. Trans.* vi. pl. 18. f. 3 to 6—*Donovan*, pl. 63—*Dorset Cat.* pl. 12. f. 6. right-hand fig.

Shell somewhat triangular, slightly convex, produced on one side, covered with a smooth olive-green skin, under which it is white with generally some yellowish rays from the beak to the margin, and mostly marked with flesh-color or blueish transverse bands and a few coarse ridges, finely and regularly striate longitudinally: beaks small, turning towards the shorter side, beneath which is an oval depression; inside bright silvery: teeth in a curved line, about twenty on the elongated side, and half the number on the other, separated by a triangular cavity: length half an inch or more; breadth not so much.

On most sandy shores. *v. v.*

B. *With the margin very entire.* 5, to 11.

5. Arca minima. *Least Ark.*

Shell somewhat globular, a little produced on one side, transparent, glossy, smooth or so minutely striate longitudinally

dinally as hardly to be visible with the highest magnifying powers: beaks not quite central, prominent, pointed, close together; teeth in a curved line, three or four on each side; inside glossy, with the margin thin and very entire: diameter the eighth of an inch.

Specimens of this minute Arca were first presented to us by the Rev. Dr. Goodall, who we believe obtained them from the Devonshire coast. They seem to differ from the very young of A. pilosa, in their transparency, total want of colored markings, in the circumference not being circular, and in not having the slightest appearance of teeth or crenatures on the margin. *v. m.*

6. Arca Noæ. *Noah's Ark.* Fig. 58.

Lister, pl. 368. f. 208—*Donovan*, pl. 158. f. 1, 2.

Shell oblong, inclining to rhombic, rounded at one end, elongated, narrower, and somewhat angular at the other, the smaller end of each valve turning in to meet the other, forming a sharp angle and a gape at the margin, regularly and strongly ribbed longitudinally, and crossed with fine transverse lines giving it a punctured appearance, and sometimes marked with a few concentric ridges: beaks nearer to one end, much separated by a deep rhombic space which is smooth: color pale rufous-brown, with deeper chesnut bands crossing the valves diagonally; inside whitish or tinged with brown; the teeth placed in a straight line: length about half an inch; breadth rather more.

Sandy shores of Devon and Cornwall, Dunbar, and Leith roads in Scotland, and Dublin bay: rare. *v. m.*

7. Arca perforans. *Perforating Ark.*

Lister, pl. 235. f. 69.

Arca lactea. *Pennant*, pl. 61. f. 2—*Da Costa*, pl. 11. f. 5—*Donovan*, pl. 135—*Dorset Cat.* pl. 11. f. 5.

Shell thin, convex, rhombic oval, generally rounded at one end and more or less angular at the other, but varying much in its depth and figure, with numerous close-set regular raised longitudinal lines, which are finely beaded by minute transverse striæ, and marked with deeper transverse ridges; covered when fresh with a dark-brown silky skin which fringes the margin, under which it is of a rusty-brown

brown color, becoming white by exposure to the air: beaks nearly central, incurved, rather remote, with the intermediate space rhombic black and finely but regularly striate longitudinally; inside white, entire at the margin, with about twenty teeth each side the beak placed in a straight line: length nearly an inch; breadth something more.

However averse we may be to the alteration of established specific names, the uncertainty in which this shell has hitherto stood, and the discovery of its peculiar habitat and history, will we trust hold us justified in this instance. The Linnéan Arca lactea is described as having the margin toothed, a circumstance which has never been found subject to variation in any shell; nor on the contrary has any shell with the margin usually plain been found toothed: and from A. barbata and A. reticulata it differs, in having the points of the beaks remote from each other.

In the summer of 1817, a large mass of very hard calcareous sandstone, dredged up in Teignmouth harbour, was brought to us, perforated all over the surface, and filled with these shells only, so compactly imbedded that it was necessary to break the stone in order to extricate them, mostly in a living state; since which they have been found inclosed in rocks about Teignmouth and Dawlish, firmly attached at the front margin by a strong broad deep green film; and within some of them were found the Tellina suborbicularis. This singular habitat may account for the obscurity in which this species has remained, its rarity in a living state, and the variations in its figure; being sometimes angular, sometimes rounded at both ends, often a little elongated on one side, sometimes flat, and sometimes very deep and as it were truncated at the front margin; length half an inch; breadth nearly an inch. *v. v.*

8. Arca fusca. *Brown Ark.*

Lister, pl. 367. f. 207—*Donovan*, pl. 158. f. 3, 4.
Arca Noæ. *Montagu*, pl. 4. f. 3.

Shell purplish-brown, elongated on one side, finely reticulate, much resembling Arca Noæ, but is longer in proportion to the breadth, and the longitudinal striæ are much finer, except between the angles of the longer end; and the upper angle of this end is considerably shorter than the lower

lower angle, which is the reverse in A. Noæ: it is also entirely destitute of the zigzag diagonal brown markings: length half an inch; breadth an inch.

West of England, and Scotland: rare. *v. v.*

9. Arca minuta. *Minute Ark.*

Walker, f. 81—*Dorset Cat.* pl. 1. f. 16.

Area caudata. *Donovan*, pl. 78.

Shell oblong, much produced at one end which is angular sloping and truncate, the other end rounded, finely striate transversely, with three or four strong concentric ridges: beaks small, turning a little to the longer side, with a smooth cavity between them: teeth in a curved line, separated by a hollow: length hardly three lines; breadth about four.

Sandwich, Scotland, West of Ireland: rare. *v. m.*

10. Arca rostrata. *Elongated Ark.*

Montagu, pl. 27. f. 7.

Shell somewhat oval, the smaller end sloping and elongated into a lip which is turned up, the other rounded, wrought with extremely fine regular slightly reflected transverse ridges, which are angularly turned across a few slight longitudinal ribs from the beaks to the smaller end; beaks small, nearly central, almost close together: teeth in a curved line, angular, numerous on each side the beak, and separated by a hollow: color pale horny, glossy, sometimes covered with a greenish skin, inside semitransparent and finely polished: length half an inch; breadth three quarters.

St. Abb's Head, Scotland: very rare.

11. Arca tenuis. *Thin Ark.*

Montagu, pl. 29. f. 1.

Shell somewhat heart-shaped, produced on one side and rounded at the margin, white or covered with an olive skin: beaks small, not central, slightly inflected towards the shorter side; inside smooth, white, and somewhat perlaceous; the margin thin: hinge with about fifteen teeth placed in a curved line within the margin, six on one side and nine on the other, divided by a small concave plate projecting

jecting inwards: length not a quarter of an inch; breadth rather more.

Dunbar, and Leith roads: very rare.

BUCCINUM. *WHELK.*

Shell with a single spiral gibbous valve: aperture oval, ending in a short canal leaning to the right.

1. Buccinum Perdix. *Partridge Whelk.*

Lister, pl. 984. f. 43—*Montagu*, pl. 8. f. 5—*Dorset Cat.* pl. 15. f. 14.

Shell somewhat oval, thin, inflated, with five or six spires ending in a fine point, the first very large and tumid, with about twenty flat circular ridges which are broader than the interstices between them: color greyish or yellowish-brown irregularly marbled and spotted with white: aperture large, oval; the outer lip thin and without teeth; pillar-lip a little folding back on the lower part, and forming a slight elongated hollow behind it: length an inch and a half; breadth an inch.

On the Devon and Dorset coasts: rare. *v. m.*

2. Buccinum undatum. *Waved Whelk.*

Lister, pl. 962. f. 14—*Pennant*, pl. 76—*Da Costa*, pl. 6. f. 6—*Donovan*, pl. 104—*Dorset Cat.* pl. 17. f. 6.

Shell oblong, coarse, tapering to a fine point: spires seven or eight, inflated and deeply defined, with numerous rather remote rounded longitudinal ribs which are rather undulated, strongly striate transversely, and again crossed with finer longitudinal lines: outer-lip a little undulated in its circumference, sometimes thick and a little reflected, sometimes thin: pillar-lip forming a slight projection below the canal which is reflected, rugged on the outside towards the top: color whitish or pale carnation, covered with a brown skin, sometimes marked with rufous blotches or bands, and sometimes there are three or four strong foliations near the outer lip on the larger volution: length four or five inches; breadth nearly two.

The young, soon after they are excluded from the cells, have

have an obtuse globular tip; and in a more advanced state are thin and transparent.

Variety. With the undulated ribs nearly obliterated, the striæ more distinct and elevated, the larger volution more swollen, the outer-lip thin and much expanded, and the shell much thinner.

Buccinum striatum. *Pennant*, p. 272. pl. 77. *Lister*, pl. 962. f. 15.

Common on most coasts. *v. v.*

3. Buccinum glaciale. *Northern Whelk.*

Donovan, pl. 154.

Shell oblong-oval, taper thin, of a livid-brown color: spires eight or nine, a little swollen, finely striate in a circular manner, and sloping rather suddenly to the line of junction, the larger one with a raised circular rib round the top, which disappears towards the next, giving it a slightly carinated appearance; they are also slightly ribbed longitudinally a little way only beyond the line of separation: aperture oval, sometimes a little spread and thickish, finely striate: length about two inches.

Found at the Orkney Islands: very rare. *v. m.*

4. Buccinum carinatum. *Carinated Whelk.*

Shell oblong-oval, thin, inflated, marked with very fine and regular circular lines, every eighth or tenth of which is a little more raised, and crossed by minute irregular longitudinal ones, with a faint appearance of numerous longitudinal rib-like elevations, which however appear only a little way beyond the line of separation: spires six or seven, with an elevated circular rib at the top of each, from which they suddenly slope to the line of junction, appearing as if carinate at the edges of them all, and giving them a very distinct and turrited appearance, not unlike the Murex Turricula: the first volution is swollen and rounded on the body till it meets the carinated line; but the rest are flattened, or not more tumid in the middle than at the ends: aperture dilated; the outer-lip thick at the edge; inner-lip smooth and spread on the pillar: beak short, somewhat truncate, and hardly reflected, behind which it is a little ragged, with two raised obliquc longitudinal ribs: color

whitish with a rufous mixture, and a broad pale rufous band round the middle of the volutions: length four inches and a quarter; breadth two and a half.

The principal differences between this species and the last, consist in the lesser number of volutions, the carinated rib which winds round the top of them all, and the consequent flattened appearance of their surface. The above description was taken from a specimen in the cabinet of Mr. O'Kelly, of Dublin, who found it on the strand of Portmarnock, in Dublin bay: another was dredged up at Bray, in Ireland, and is we believe in the possession of Mr. Sowerby: and our friend Mr. O'Kelly has lately informed us that it has been found by Mr. Tardy, at Bullock, in Ireland. It has also been taken at Exmouth. *v. m.*

5. Buccinum Lapillus. *Rock Whelk.*

Lister, pl. 965. f. 18 and 19—*Pennant*, pl. 75. f. 1—*Da Costa*, pl. 7. f. 1, 2, 3, 4. 9. 12—*Donovan*, pl. 11—*Dorset Cat.* pl. 15. f. 1—4. 9. 12.

Shell oval, thick, with five or six spires ending in a fine point, the first very large, all spirally ribbed and crossed with fine irregular striæ; when young rough with raised hollow membranaceous scales, which disappear in its advanced stage of growth; when old covered with scales disposed longitudinally, and sometimes nearly smooth: aperture oval, the outer-lip with a very thin edge, more or less indented, with often four or five tooth-like protuberances on the inside; pillar-lip transversely rugged on the outside, with a slight hollow near the end, and projecting into an angle withinside: color white, yellowish, or greenish, with often a broad band or two of chesnut brown or deep yellow, rarely of light blue: length from an inch to one and a half; breadth a third of its length.

Common on most rocky coasts. *v. v.*

6. Buccinum reticulatum. *Reticulated Whelk.* Fig. 75.

Lister, pl. 966. f. 21—*Pennant*, pl. 75. f. 2—*Da Costa*, pl. 7. f. 10—*Donovan*, pl. 76—*Dorset Cat.* pl. 15. f. 10.

Shell oblong-oval, pointed, with seven or eight spires, which hardly rise above the line of separation, strongly ribbed longitudinally, and crossed with finer transverse lines,

lines, forming small tubercles all over the shell: aperture nearly oval, the outer-lip not thickened at the back, with mostly a few fine teeth on the inside; inner-lip folding back, and forming a hollow behind it: color yellowish-brown, with generally a pale chesnut band round the end of the volutions: length above an inch; breadth not half an inch.

Common on many sandy beaches. *v. v.*

7. Buccinum Macula. *Thick-lipped Whelk.*

Pennant, pl. 82. f. 6—*Montagu*, pl. 8. f. 4—*Linn. Trans.* viii. pl. 4. f. 4—*Dorset Cat.* pl. 15. f. 8.

Shell oval, pointed, with seven spires, strongly reticulated like the last; but the longitudinal ribs are more waved, and the spires are better defined and more distinctly separated by the line of junction: aperture nearly orbicular, with a small dark purplish spot at the outer edge or back of the canal; outer-lip thickened by a strong rib at the back, and slightly toothed on the inside; inner-lip faintly toothed, a little folding back, but not forming a hollow behind it: color various shades of brown, chesnut, white, purple, or pink, and often covered with a polished livid skin: length about half an inch; breadth not a quarter.

Variety A. Larger, with the outer-lip thin, and not toothed on the inside.

Variety B. With a notch or cut at the upper angle of the outer-lip, separating it from its attachment to the body volution, similar to that which is found in the Murex gracilis.

On most sandy shores: the variety B. we observed in the cabinet of Mrs. C. W. Loscombe, of Exmouth. *v. v.*

8. Buccinum ambiguum. *Ambiguous Whelk.*

Montagu, pl. 9. f. 7—*Linn. Trans.* viii. pl. 4. f. 5—*Dorset Cat.* pl. 18. f. 19*.

Shell somewhat conic, thick, with six or seven spires, which terminate rather abruptly at their tops, and are deeply divided by the line of separation, marked with strong distant longitudinal ribs, from eleven to fifteen in number, a little swelling into tubercles at the junctures, and reticulated by finer transverse lines: aperture nearly orbicular; the outer-lip thickened by a rib at the back, and very

slightly toothed within; inner-lip slightly reflected with generally two faint distant folds: color whitish, or pale ochre: length about half an inch; breadth hardly three-eighths.

It differs from the last, and from the young of B. reticulatum, in being broader in proportion to its length, in the volutions being a little flattened at their tops, and in the ribs being more distant and a little swelling at the junctures: it wants also the colored spot at the back of the canal.

Maton and Rackett, and consequently Mr. Dillwyn, in referring to the fig. 19. in the Dorset Catalogue, not considering that there are two numbers of this denomination, have directed us to that without the star, which is Helix succinea. The former authors, in their corrigenda, have strangely desired us to erase 19, and substitute 23, a number not to be found.

About Weymouth and Poole, and at Portmarnock in Dublin bay: rare. *v. m.*

9. Buccinum tuberculatum. *Tubercled Whelk.*

Shell taper, white but not glossy: spires six, rounded and well defined by the line of junction, with numerous strong longitudinal ribs crossed by fine transverse lines, giving them a tubercled appearance: aperture oval; the outer-lip thin and toothed within; inner-lip strongly marked with oblique striæ, and ending in a short reflected rather cloven canal: length six-tenths of an inch; breadth not a third of its length.

It differs from B. reticulatum in its elongated and taper shape, and in the inner-lip and canal; from B. ambiguum, in having the ribs more numerous and closer together, and in wanting the stronger tubercles at the junctions of the volutions; from B. hepaticum, in not having the volutions entirely covered with tubercles; and from all, in the strong oblique striæ on the pillar.

Found in the sand at Exmouth, and is in the cabinet of Mrs. C. W. Loscombe: very rare. *v. m.*

10. Buccinum hepaticum. *Liver-colored Whelk.*

Montagu, pl. 8. f. 1—*Dorset Cat.* pl. 15. f. 13.

Shell oblong-oval, pointed, with seven or eight swollen and

and strongly divided spires, ribbed longitudinally, and each of them crossed by a transverse depressed line near the junction, cutting that part into tubercles; the larger volution a little striate at the base: outer-lip thick, turning inwards to an edge, faintly toothed or striate on the inside; inner-lip reflected, with a single tooth-like ridge on the upper part: color liver-brown, with sometimes a few rufous spots, and sometimes there is a white band on the inside of the inner-lip: length hardly an inch; breadth about a quarter.

Weymouth, and Dublin bay: rare. *v. m.*

11. Buccinum lineatum. *Lineated Whelk.*

Da Costa, pl. 8. f. 5—*Donovan*, pl. 15—*Dorset Cat.* pl. 14. f. 5.

Shell conic, pointed, smooth, with five or six volutions regularly banded with alternate spiral lines of chocolate-brown and white, giving them a striated appearance; sometimes quite white: aperture oval, the outer-lip a little spread, marked with the brown lines at the margin, giving it the appearance of being slightly notched: length a quarter of an inch; breadth an eighth.

Dorset and Devon coasts, on Fuci: rare. *v. m.*

12. Buccinum bilineatum. *Bilineated Whelk.*

Lister, pl. 998. f. 63?—*Pennant*, pl. 82. f. 9—*Dorset Cat.* pl. 17. f. 8.

Shell oval, tumid, whitish, with from two to four bands of brown spots on the body volution: spires five or six, smooth except two rows of tubercles close to the junctions of the largest volutions, which disappear on the smaller ones: aperture large, somewhat oval, with the canal slightly recurved; the outer-lip slightly toothed; pillar-lip rugged and granular: length hardly an inch; breadth three quarters.

In Lister's figure, the larger volution appears to be striate transversely.

Weymouth and Dunbar: very rare.

13. Buccinum cinctum. *Girdled Whelk.*

Montagu, pl. 15. f. 1. *Dorset Cat.* pl. 14. f. 17.

Shell conic, pointed, white, with a fine thread-like ru-

fous-brown line round the middle of each volution: spires six or seven, very little raised, finely and closely ribbed longitudinally, and obscurely striate transversely in the depressions between the ribs: aperture narrow, the outer-lip thickened at the back, and slightly toothed within, with a small rufous spot on the edge, and another at the upper angle of the aperture, and from these two spots may be traced two obscure broken lines round the base of the shell; inner-lip slightly notched by the transverse striæ of the base: length barely a quarter of an inch; breadth about a third of its length.

Found at Weymouth by Mr. Bryer: very rare.

14. Buccinum minimum. *Minute Whelk.*

Montagu, pl. 8. f. 2—*Donovan*, pl. 179. f. 2.

Shell strong, conic, taper: spires five, rounded and well defined, ribbed longitudinally, and reticulate by finer transverse lines: color from light to dark chesnut brown: aperture oval, a little elongated at the base, with both the lips smooth: length hardly two-tenths of an inch.

Western coasts, and Dunbar: rare. *v. m.*

15. Buccinum terrestre. *Land Whelk.*

Montagu, pl. 8. f. 3—*Walker*, f. 60.

Shell very slender, smooth, glossy, transparent, obtusely pointed, white: spires six, a little raised, and very obliquely separated by the line of junction; the first more than twice as long as the second: aperture oblong, somewhat oval; the lips without teeth, the outer-one thin and even, the inner-one thickened and forming a small canal: length about a quarter of an inch; breadth a line.

On the top of Barham Downs, in moss and at the roots of grass; and brought down by the floods into the Avon, at Lackham in Wiltshire: Eton, and Dunbar: rare. *v. m.*

The following species are very obscure and imperfectly described, not having been ascertained since the time of their respective discoverers.

16. Buccinum obtusulum.

Walker, f. 59.

Shell opake, white, with three tumid spires: aperture oval.

At Faversham creek: minute. 17. Buc-

17. Buccinum breve.

Linn. Trans. iii. pl. 13. f. 3, 4.

Shell opake, white, with five spires, ribbed longitudinally, and striate transversely: canal very short.

On the Pembrokeshire coast: minute.

18. Buccinum minutum.

Linn. Trans. iii. pl. 13. f. 5, 6.

Shell opake, white, with three spires ribbed longitudinally.

On the Pembrokeshire coast: minute.

19. Buccinum læve.

Linn. Trans. iii. pl. 13. f. 78.

Shell opake, white, smooth, with three spires; the first more inflated than the next: aperture oval, with a long beak.

On the Pembrokeshire coast: minute.

20. Buccinum obtusissimum.

Linn. Trans. iii. pl. 13. f. 9, 10.

Shell opake, white, smooth, with three spires; the first not more tumid than the next: beak longitudinally contracted.

On the Pembrokeshire coast: minute.

BULLA. *DIPPER.*

Shell with a single convolute valve, without teeth: aperture mostly contracted, reaching nearly or the whole length of the shell, without a canal, and entire at the base; pillar-lip oblique, smooth.

1. Bulla lignaria. *Wood Dipper.*

Lister, pl. 714. f. 71—*Pennant*, pl. 73, middle fig.—*Da Costa*, pl. 1. f. 9—*Donovan*, pl. 27—*Dorset Cat.* pl. 23. f. 9.

Shell oblong-oval, thin, brittle, semitransparent, yellowish or chesnut brown, with numerous fine pale transverse lines which run rather obliquely, and a few obscure longitudinal ridges, sometimes with one or two white oblique longitudinal bands; inside white, glossy, with a very thin outer margin: aperture wide, oval, narrowed towards the crown which is slightly concave at top: pillar-lip smooth, spreading on the body of the shell, white with often

often a chesnut shade, and visible all the way down: length two inches or more; breadth one and a quarter.

The animal is furnished with a strong gizzard, consisting of two somewhat triangular thin smooth white testaceous plates, nearly an inch in diameter, placed upon each other, with an intervening thick tough yellowish ligament connecting them together: and within one of the lateral angles placed on the ligament, is an elongated testaceous semicylindrical hollow white additional plate. Fig. 3, 4.

On the Devon and Cornish coasts; and Dublin bay. *v. v.*

2. Bulla Hydatis. *Paper Dipper.*

Montagu, Vignette 1. f. 1, 2—*Da Costa*, pl. 1. f. 10—*Donovan*, pl. 88—*Linn. Trans.* ix. pl. 6. f. 1—*Dorset Cat.* pl. 23. f. 10.

Shell oval, thin, brittle, semitransparent, tumid, green or yellowish, often covered with a thin chesnut-colored skin, irregularly wrinkled transversely, and very finely and closely striate longitudinally, when young glossy and nearly smooth: aperture large, contracting near the crown, which is concave and without external volution: outer-lip very thin and extending beyond the crown; inner-lip spread, a little thickened, and whitish or chesnut-colored: length an inch; breadth three quarters.

The inhabitant of this shell is also furnished with a strong coriaceous blackish gizzard, of a triangular form, or consisting of three oval petal-like divisions, each with a strong raised longitudinal rib down the middle, and about twelve transverse ones. *Montagu*, Vignette 1. f. 5, 6.

On the western coasts, Dunbar in Scotland, and the strand at Balbriggan in Ireland. *v. v.*

3. Bulla Akera. *Elastic Dipper.*

Dorset Cat. pl. 22. fig. 13.

Bulla resiliens. *Donovan*, pl. 79.

Shell oval, transparent, membranaceous, elastic, pale horn-color, often marked with brown spots or patches, slightly striate longitudinally, whitish within: aperture large, much contracted at top, which is obtuse, convolute and channelled round the circumference, the volutions not produced but flat and even with the body; outer-lip extremely

nely thin, often a mere film, the upper part lying close the body volution, but not attached till it has taken rly one turn; pillar visible to the end, the lip a little kened and white: length about three quarters of an ; breadth not half an inch.

n the plates to the Dorset Catalogue, the figure, which very indifferent one, of this shell, is marked 13: but in description and the index fig. 12 is referred to. This or has been copied by Mr. Dillwyn. And Maton and ckett, having first quoted fig. 13, have in their corri- da directed us to amend it, by altering it to 12.

In the western coasts, North Britain, and the strand at lbriggan in Ireland: rare. *v. m.*

4. Bulla Ampulla. *Bubble Dipper.*

Lister, pl. 713. f. 69, and pl. 1056. f. 8—*Montagu*, pl. 7.

Shell oblong-oval, smooth, glossy, opake, whitish mar- d and veined with light chesnut-brown generally in ves, glossy white within: aperture moderately wide, en all down, contracting towards the crown which is ghtly concave at top; outer-lip thin; pillar-lip thickened, ake white, not spreading on the body of the shell, nor is pillar visible all the way down as in B. lignaria: length out three-eighths of an inch; breadth a quarter of an h.

On the western coasts, and North Britain: very rare. *m.*

5. Bulla patula. *Patulous Dipper.* Fig. 27, 28.

Pennant, pl. 73, two figures under the uppermost—*Do- ne*, pl. 142—*Dorset Cat.* pl. 12. fig. 8.

Shell oblong, or rather fusiform, transparent, very mi- tely striate longitudinally, glossy white or with a pale y tinge, involute and open all the way, both the ends ngthened into a canal; one of which is shorter and trun- te, a little leaning to the left, with a twist or fold on the lar, and furnished with a few transverse striæ; the other d more open and lengthened, with a slight indenture or rrow on the pillar-lip, and obliquely striate; aperture ched, the outer-lip very thin and plain: length an inch; eadth nearly half as much.

On

On the South Devon coasts, and North Britain: very rare. *v. v.*

6. Bulla diaphana. *Transparent Dipper.*

Pennant, pl. 74. f. 2—*Montagu*, pl. 7. f. 8.

Shell oval, extremely thin and fragile, smooth, transparent, glossy white: spires three, very little produced and ending rather obtusely, the first occupying three-fourths of the shell, the others rather rounded and well defined: aperture dilated, somewhat oval, extending to the termination of the body volution; outer-lip extremely thin and plain; pillar-lip smooth and not reflected: length four tenths of an inch; breadth hardly three tenths.

Having carefully examined a specimen of this very rare shell, from the cabinet of Mrs. C. W. Loscombe, of Exmouth, and compared it with the Cypræa europæa in its various stages of growth, we are strongly and decidedly of opinion that it is distinctly a Bulla, much resembling in its outline some of the short-spired fresh-water species of this family. Independently of the animal inhabitant being of a totally different construction, as was observed by Montagu; its general dissimilarity, comparative size, extreme tenuity, and the total absence of the least appearance of incipient ribs or teeth, induce us to strengthen this opinion.

Salcomb bay, Falmouth, and Exmouth. *v. m.*

7. Bulla cylindracea. *Cylindrical Dipper.*

Lister, pl. 714. f. 70, two middle figures—*Pennant*, pl. 73, two lowest figures—*Montagu*, pl. 7. f. 2—*Donovan*, pl. 120. f. 2—*Dorset Cat.* pl. 18. f. 22.

Shell cylindrical, slender, of nearly equal diameter at both ends, smooth, glossy white: aperture very narrow, a little dilated at one end, reaching the whole length; the crown without external volution, but impressed with a deep cavity; outer-lip thin, sharp, straight; inner-lip thickened, opake white, the pillar a little indented: length about five lines; breadth not two.

On the western coasts, Scotland, and Dublin bay. *v. v.*

8. Bulla umbilicata. *Indented Dipper.*

Montagu, pl. 7. fig. 4.

Shell oblong, smooth, white, rounded and concave at the crown,

crown, without external volutions: aperture very narrow, reaching the whole length of the shell, dilated into an oval at the base: resembles the last, but is not so cylindrical, and the length, which is about a quarter of an inch, is double its breadth.

Western coasts, Scotland, and Dublin bay. *v. v.*

9. Bulla retusa. *Truncate Dipper.*

Bulla truncata. *Montagu*, pl. 7. f. 5—*Linn. Trans.* v. pl. 1. f. 1, 2—*Walker*, f. 62.

Shell somewhat cylindrical, white, rather opake, finely and regularly striate longitudinally on the upper half only, the lower part being nearly smooth: crown abrupt, with a large perforation in which the volutions are visible: aperture reaching the whole length of the shell, very narrow, something contracted about the middle and dilated into an oval at the base, where the outer-lip is a little spread over the pillar: length hardly two lines; breadth more than half as much.

Western coasts, Dublin bay, and North Britain. *v. v.*

10. Bulla obtusa. *Obtuse Dipper.*

Montagu, pl. 7. f. 3—*Dorset Cat.* pl. 18. f. 14—*Walker*, f. 61.

Shell somewhat cylindrical, opake, white or covered with a chesnut-brown skin, longitudinally wrinkled; crown obtuse, with four or five very slightly produced volutions: aperture extending nearly but not quite to the whole length of the shell, narrow, a little compressed in the middle, and dilated into an oval at the base; inner-lip thickened, smooth, white: length about two-tenths of an inch; breadth half its length.

Walker's figure is an excellent representation of this shell: but Mr. Jacobs, who furnished the author with the descriptions, mistaking it for a Voluta, it has hitherto been quoted for the V. alba, to which it has no resemblance.

Western coasts, Dublin bay, and Scotland. *v. m.*

11. Bulla aperta. *Wide Dipper.*

Da Costa, pl. 2. f. 3—*Montagu*, Vignette 2. f. 1—*Donovan*, pl. 120. f. 1—*Dorset Cat.* pl. 22. f. 3.

Shell somewhat orbicular, extremely thin and brittle, transparent,

transparent, clear white, irregularly wrinkled transversely but glossy on the outside, almost entirely open, rounded and dilated at the base, a little narrowed at the crown which has a slight indenture; outer-lip extending beyond the crown; inner-lip slightly turned in, rendering the pillar or involution quite visible to the end: length more than half an inch; breadth rather less.

The animal also possesses a gizzard something resembling that of the B. lignaria, but it is of a more regularly triangular form, with the base elongated; and the supplemental plate, which is placed within the base of the triangular ones, is of a lozenge shape, or quadrangular, with the points of two of the angles elongated. Fig. 5, 6.

Western coasts, Dublin bay, Scotland. *v. v.*

12. Bulla Catena. *Chain Dipper.*

Montagu, pl. 7. fig. 7.

Bulla punctata. *Linn. Trans.* v. pl. 1. f. 6, 7, 8.

Shell somewhat oval, white, transparent, glossy, with numerous fine transverse striæ which run rather obliquely and with the assistance of a magnifier seem to be connected and interwoven in a chain-like manner: aperture very large, almost entirely open like B. aperta, but closing at the crown, which is obtuse and turned in so as to form a single volution; inside glossy, the pillar-lip a little spread: length about the tenth of an inch; breadth not so much.

Variety, with a more transparent single zone round it, taking in eight or ten of the chain-like striæ, the other parts appearing frosted and not so glossy; the crown a little concave, and the outer margin of the aperture close to the body reflecting a little and forming a depression on that part.

Western coasts, and North Britain: rare. *v. m.*

13. Bulla haliotoidea. *Ear-shaped Dipper.*

Montagu, pl. 7. f. 6—*Dorset Cat.* pl. 22. f. 5*.

Shell somewhat oval, white, extremely thin, transparent, very slightly wrinkled on the outside: aperture broad oval, not quite extending to the crown, which is small, obtuse, and twisted sideways into about two volutions: inner-lip a little turned in; the inside visible to the end. It differs from

from B. aperta, in its elongated and ear-shaped form: length three quarters of an inch; breadth half an inch.

When alive, the animal completely envelops the shell, from which circumstance it naturally falls into this family.

Western coasts, Dublin bay, Scotland. *v. v.*

14. Bulla tentaculata. *Armed Dipper.*

Linn. Trans. xi. pl. 12. f. 5, 6.

Shell so extremely similar to the B. haliotoidea, that Montagu observes no distinction can be conveyed by description or figure, except that it is rather more depressed and opake. To the animal alone, therefore, must we refer for the actual identity of each, which in their structure is materially and essentially different. The animal of B. haliotoidea is represented at fig. 6, in the Vignette to the second part of Montagu's *Testacea Britannica*; and that of B. tentaculata as above quoted.

At the salt-rock, in the estuary of Kingsbridge, Devon: rare.

15. Bulla flexilis. *Flexible Dipper.*

Laskey, Wern. Soc. i. pl. 8. fig. 6.

Shell oval, transparent, horn-color, flexible when wet, very brittle when dry, white and opake at the crown, where there is a single oblique volution. In shape and the form of the involution it exactly resembles B. haliotoidea, but is much more distinctly wrinkled: length half an inch.

Found by Captain Laskey, at Dunbar: very rare.

16. Bulla Plumula. *Feather Dipper.*

Montagu, pl. 15. f. 9, and Vignette 2. f. 5.

Shell oblong-oval, flat, thin, transparent, concentrically wrinkled, with two or three ray-like impressions from the base to the crown: color yellowish-white, tinged with brown at the base, the other end folded into a single very minute volution: aperture extending over the whole shell, slightly turned in at the crown to form the very minute volution: length half an inch; breadth nearly a quarter.

On Milton sands, Devon: very rare. *v. m.*

17. Bulla membranacea. *Membranous Dipper.*

Linn. Trans. xi. pl. 12. f. 4.

Shell oval, flat, extremely thin and delicate and some-

what membranaceous, especially about the margin, with a single minute lateral volution which is a little prominent, transversely wrinkled, and covered with a silvery skin tinged with pink, changeable in different positions of light, and occasionally appearing nacred or with a metallic lustre: aperture extending over the whole shell: length nearly an inch and a half; breadth an inch.

It much resembles B. Plumula, but is more membranaceous, rather more convex, with the volution more prominent, and not placed so laterally.

Found by Montagu, at the salt rock, in the estuary of Kingsbridge, Devon: rare.

18. Bulla fontinalis. *Stream Dipper.*

Lister, pl. 134. f. 34—*Da Costa*, pl. 5. f. 6—*Dorset Cat.* pl. 21. f. 6—*Linn. Trans.* viii. pl. 4. f. 1.

Shell oval, swelling, transparent, glossy, pale horn-color: spires four or five, rounded and well defined, reversed, very little produced; the first very large, the others small, obtuse at the point: aperture oval-oblong, reaching three-fourths of the length of the shell; the outer-lip reaching beyond the base. Old ones are a little wrinkled longitudinally, with two or three faint transverse ridges on the body volution: length half an inch; breadth a quarter.

In stagnant and slow running waters, under the leaves and on the stalks of plants. *v. v.*

19. Bulla rivalis. *River Dipper.*

Linn. Trans. viii. pl. 4. f. 2.

Shell oval-oblong, transparent, smooth, glossy, horn-color, with five or six reversed volutions ending in a very fine point: aperture oblong. It differs from B. fontinalis, in being more elongated and pointed, in having the first volution not so proportionately large nor tumid, and in being more contracted at one end of the aperture; and from the next, in being of a more conic shape, and more sharply pointed: size of the last.

Slow streams in Hampshire, and near Naas in Ireland: rare. *v. v.*

20. Bulla Hypnorum. *Slender Dipper.*

Lister, pl. 1059. f. 5—*Walker*, f. 54—*Linn. Trans.* viii. pl. 4. f. 3—*Dorset Cat.* pl. 18. f. 20.

Shell

Shell oblong, taper, transparent, glossy, smooth, horn-color, with five or six reversed pointed volutions, the first half as long as the shell: aperture narrow-oval, spreading a little at the base; outer-lip very thin; inner-lip a little thickened and slightly indented. It differs from B. fontinalis, in being more taper and produced, in having the aperture more narrow and contracted, and in its darker color: length half an inch; breadth not a quarter.

Stagnant waters, and slow streams. *v. v.*

21. Bulla fluviatilis. *Rivulet Dipper.*

Helix Bullæoides. *Donovan*, pl. 168. f. 2.

Shell oval, smooth, glossy, brittle, horn-color, with two reversed volutions which are hardly raised or extending beyond the body of the shell: aperture oval-oblong, nearly as long as the body volution: length a quarter of an inch; breadth three tenths.

Two specimens of this rare shell were found, by Captain Brown, in a stream near Clonoony Barracks, in Ireland, by which we are enabled to clear up the doubts which have as yet existed respecting this very obscure species. In every respect they corresponded with the shell figured by Donovan. They were undoubtedly full grown, and both in the number of volutions, and other specific marks, materially differed from B. fontinalis. And we cannot but concur with this respectable conchologist, that it has no more reason to be placed among the Helices, than Bulla fontinalis, Hypnorum, or rivalis. *v. m.*

22. Bulla emarginata.

Linn. Trans. v. pl. 1. f. 9, 10, 11.

Shell gibbous, transparent, smooth, with the aperture notched, and the lip slightly arched.

On the Pembrokeshire coast: minute.

23. Bulla denticulata.

Linn. Trans. v. pl. 1. f. 3, 4, 5.

Shell oblong, smooth, white, transparent, obtuse, nearly equal: aperture with a very sharp tooth at the top.

On the Pembrokeshire coast: minute.

CARDIUM. *COCKLE.*

Shell with two equal convex valves, mostly ribbed longitudinally, and toothed round the margins: hinge with two primary teeth, and a larger remote one on each side, all locking into the opposite valve.

1. Cardium aculeatum. *Spinous Cockle.*

Lister, pl. 321. f. 158—*Pennant*, pl. 53. f. 1—*Donovan*, pl. 6—*Wood*, pl. 51. f. 1.

Shell very convex, thin and light in proportion to its size, with about twenty-one ribs which have a groove down the middle of each, produced, rather straight, and a little angular on the cartilage side, clothed with pointed and straight or somewhat curved spines which increase in size towards the flattened margin; the anterior side rounded and covered with flattened tubercles which enlarge towards the margin: color yellowish-brown, with darker bands and blotches, and sometimes pale or whitish markings; inside white, glossy, often tinged with purple or flesh-color, grooved in the middle up to the very hinge: length, when full grown, nearly four inches; circumference about eleven.

Cardium spinosum. *Sowerby, Brit. Miscell.* pl. 32.

The half-grown shell.

Western coasts, and North Britain. *v. v.*

2. Cardium tuberculatum. *Tubercled Cockle.* Fig. 12.

Lister, pl. 328. f. 165—*Donovan*, pl. 107. f. 2—*Dorset Cat.* pl. 2. f. 2—*Wood*, pl. 50. f. 1, 2.

Shell very convex, thick, ponderous, and rounded, with about twenty-two very prominent and rounded ribs, which are not grooved down the middle, covered with obtuse tubercles which form very rugged wrinkles on the posterior side, and roughly striate in the interstices; the anterior side elongated, flattened, and slightly prominent in the middle, presenting a broad heart-shaped front, with about seven cord-like ribs on each side, and a little gaping below the cartilage; the posterior side remarkably prominent and rounded,

l, very rugged with tubercular wrinkles: color
sh-brown, with often pale and chocolate-brown bands
rkings, generally of a deep chocolate-brown about
rgin and anterior side, and of a milky whiteness
he posterior protuberance: beaks very prominent
arly central; inside glossy, with a fawn-color or
inge; the grooves on the inside reaching only about
y up the shell: diameter sometimes above three

much larger than C. echinatum, and so ponderous
e of them will outweigh three of the latter of the
ize; the tubercles are never produced into spines,
anterior slope, when viewed in front, is remarkably
d and regularly ribbed, in which state it is repre-
in our figure. *v. v.*
lium nodosum. *Montagu*, p. 81. The young shell.
l flatter than the young of C. echinatum, more re-
r orbicular, of a reddish colour, with often darker
the tubercles are closer and more obtuse; the ribs
re rounded; and it is thicker and stronger. We have
ecies in all its gradations of size, and can therefore
o hesitation in combining them together.
he South Devon coast. *v. v.*

Cardium echinatum? *Thorny Cockle.*
er, pl. 324. f. 161—*Da Costa*, pl. 14. f. 2—*Donovan*,
f. 1—*Dorset Cat.* pl. 6. f. 2—*Wood*, pl. 49. f. 1, 2.
ll very convex, a little produced but not flattened on
rtilage side, rounded on the other, with from eighteen
nty ribs clothed with sharp white enamelled spines,
when viewed sideways resemble fine teeth; these
en much curved towards the produced side, while
near the hinge are of a longitudinally lance-shaped
color dull rusty brown more or less mixed with
with often deeper belts; inside, glossy white: dia-
about two inches and a half.
dium ciliare. *Pennant*, pl. 53. f. 2—*Donovan*, pl. 32.
Dorset Cat. pl. 4. f. 1—*Wood*, pl. 49. f. 3, 4. The
shell.
ll nearly globular, not produced on the cartilage side,
very thin and transparent, with the spines all flat

and longitudinally lance-shaped, like the upper ones of the full grown shell.

Variety. With the spines somewhat spatulate or flattened, and rather longer and more distant. We have in our cabinet specimens, where some of the spines are lanceolate, some of them pointed and curved, and others spatulate, thick, and very obtuse.

Cardium Spatula. *Laskey, Wern. Soc.* p. 381.

Common on most sandy coasts. *v. v.*

4. Cardium edule. *Common Cockle.*

Lister, 334. f. 171—*Pennant*, pl. 53. f. 3—*Da Costa*, pl. 11, f. 1—*Dorset Cat.* pl. 11. f. 1—*Donovan*, pl. 124—*Wood*, pl. 55. f. 4.

Shell convex, a little produced on one side, with about twenty-six ribs, which are flattened in the middle and a little rounded at the sides, mostly marked with concentric rings and ridges, and somewhat roughened near the circumference with obsolete recurved scales, which are stronger on the shorter side: color white or yellowish-white with often a blueish cast, generally dark red at the elongated end and towards the hinge; inside white, with a large dark red blotch on the produced side. The very young are globular, semitransparent, and clear white. Length about an inch and a half; breadth a little more.

Variety A. Cardium rusticum. *Lister*, pl. 329. f. 166. *Donovan*, pl. 124. f. 2. *Wood*, pl. 55. f. 2, 3.

Shell larger, with about eighteen or twenty ribs, which are more elevated and rugged in the interstices, of a ferruginous or livid color, with often narrow chocolate-brown zones.

Variety B. Very much elongated and flattened on one side.

Variety C. Globular, with all the ribs rounded, rather polished, of a pale reddish white, with a rose-colored tinge about the projection below the hinge on the posterior side, and about half the size.

These two last are found imbedded in blue clay at the mouths of rivers, in Dublin bay: but all the varieties may be distinguished by the obscure transverse scales.

Common on all coasts. *v. v.*

5. Car-

5. Cardium lævigatum. *Smooth Cockle.*

Lister, pl. 332. f. 169—*Pennant*, pl. 54, lower fig.—*Da Costa*, pl. 13. f. 6—*Dorset Cat.* pl. 7. f. 6—*Donovan*, pl. 54.—*Wood*, pl. 54. f. 1, 2.

Shell somewhat oval, much produced at one end, with very numerous faint flat ribs, between which it is obscurely striate longitudinally, and crossed by distant obscure raised transverse lines, quite smooth at the anterior side, covered with a yellowish-brown skin almost concealing the markings, under which it is of a pale flesh-color; the younger ones finely polished and marbled with whitish and pink or dull red; inside smooth, glossy, with more or less of a pink hue, the margin strongly toothed: length two inches and a half; breadth two inches.

Sandy shores of England and Ireland. *v. v.*

6. Cardium elongatum. *Lengthened Cockle.*

Montagu, p. 82.

Shell flattish, somewhat oval, a little angular and elongated on one side, with twenty-one faintly wrinkled and rounded ribs: color yellowish-white or pale rufous, with sometimes red blotches on the elongated side which are visible within; inside yellowish-white; beaks not quite central: diameter a quarter of an inch.

In Salcomb bay, Devon: rare. *v. m.*

7. Cardium exiguum. *Pigmy Cockle.*

Dorset Cat. pl. 2. f. 11.

Cardium pygmæum. *Donovan*, pl. 32. f. 3.

Shell coarse, sometimes rather flattened and sometimes very convex, somewhat heart-shaped and produced at one end, with about twenty ribs, which are tubercled towards the shorter end and wrinkled towards the margin; the older ones wrinkled all over; strongly striate transversely in the interstices: color dirty white or brown, often covered with a dark skin: under the beaks a strong heart-shaped impression: inside smooth, white, often rufous at the angular side: length about half an inch; breadth nearly as much.

Western coasts, and Dublin bay and Cove in Ireland. *v. v.*

8. Ca

8. Cardium medium. *Marbled Cockle.*

Lister, pl. 316. f. 153—*Donovan*, pl. 32. f. 1—*Wood*, pl. 50. f. 3—*Walker*, f. 83, 84.

Shell somewhat triangular and heart-shaped, a little abrupt on one side, and running into an angle at the front margin, the other side shorter and rounded, with from thirty-six to forty smooth ribs: color white; the inside with mostly a ferruginous or chesnut hue about the abrupt side: teeth one in each valve, and together with the lateral ones strong and prominent; the margin notched: length about an inch; breadth the same.

On the coast of Durham: very rare. *v. m.*

9. Cardium fasciatum. *Banded Cockle.*

Montagu, pl. 27. f. 6.

Shell nearly orbicular, semitransparent, with about twenty-seven smooth glossy flattened ribs, slightly tubercled at the shorter side, and sometimes round the margin: color rufous white, with three or four darker transverse bands, more strongly marked at the longer end and on the inside, where the ribs are also obvious: length hardly three-eighths of an inch; breadth rather more.

Sandy coasts of England, Ireland, and Scotland. *v. v.*

CHAMA. *HEART-COCKLE.*

Shell with two strong valves: hinge rugged and gibbous, with the teeth obliquely locking into the opposite valves.

1. Chama Cor. *Ox-heart Cockle.* Fig. 17.

Lister, pl. 275. f. 111—*Donovan*, pl. 134—*Laskey*, pl. 8. f. 7.

Shell nearly globular, a little produced and flexuous on the anterior side, heart-shaped, strong, thick, covered with a yellowish-brown skin, under which it is whitish or pale ferruginous, with sometimes a few brownish blotches, very finely striate transversely with several coarser ridges; the cartilage prominent and rounded: beaks large, prominent, much curved inwards towards the posterior slope so as to form a single flat volution, and inclining outwards, very remote

mote from each other; inside smooth, white, with often a reddish tinge, the margin thin and plain: teeth flattish, two in each valve, with a very remote pointed lateral one in each valve on the cartilage side, all locking into each other; the cavities of the primary ones very deep.

The specimen before us of this rare and noble shell, taken in Dublin bay, is full four inches long, and more than three and a half wide. It has also been found near the Giant's Causeway, at Belfast, in Bantry bay, and at Abb's Head in Scotland: very rare. *v. m.*

CHITON. *CANOE-SHELL.*

Shell boat-shaped, with several valves or plates disposed along the back in a transverse manner, and incumbent on each other at their front margin.

1. Chiton marginatus. *Bordered Canoe-shell.*

Pennant, pl. 39. f. 2—*Linn. Trans.* viii. pl. 1. f. 2—*Dorset Cat.* pl. 1. f. 2—*Wood*, pl. 3. f. 4.

Shell with eight valves, finely punctured like shagreen, the seven hinder ones with a small ridge on the back which ends in a small beak pointing forwards over the next; the margin coriaceous and coarsely serrate; inside covered with a tough skin under which it is polished with the margin finely notched: color dusky, grey, greenish, or inclining to red, often spotted or marbled: length half an inch or more; breadth a quarter. In Scotland they appear to grow of a large size, as the separate valves have been found half an inch wide.

Variety. Chiton septemvalvis. *Montagu*, p. 3.

With seven valves, the five middle ones dark grey, transversely divided, rough on the hinder part and nearly smooth in front; the beaks and the two ends rufous brown, and the margin faintly reticulate.

Rocky coasts, on stones and shells. *v. v.*

2. Chiton lævis. *Smooth Canoe-shell.*

Pennant, pl. 39. f. 3.

Shell with eight valves, smooth or very faintly striate transversely, raised and beaked on the back like the last; the

the margin finely reticulate: color deep rufous-brown, often variegated and marked with a yellowish line down the back: smaller, narrower, and more convex than the last.

Scotland, West of England, and Dublin bay. *v. v.*

3. Chiton cinereus. *Ash-colored Canoe-shell.*

Dorset Cat. pl. 1. f. 4—*Linn. Trans.* viii. pl. 1. f. 3—*Wood*, pl. 3. f. 5.

Shell with eight valves, nearly smooth, ridged down the back and beaked, finely fringed round the margin, a little reflected on the hinder angle at the base: color grey or with a reddish tinge: length a quarter of an inch.

It differs from the last principally in the margin, which is not reticulate, but furnished with a fine fringe. The color is also of an uniform grey with occasionally a faint reddish tinge. The color of the Ch. lævis is of a dark dusky red, which does not change after it is dead, as is evident from the specimens in our own cabinet, which have been preserved for some years. Mr. Dillwyn, however, has united the two species into one, under the assertion that the Ch. lævis is red when alive, and grey when dead.

Western coasts, and Dublin bay. *v. v.*

4. Chiton punctatus. *Punctured Canoe-shell.* Fig. 10.

Shell with eight valves, raised, beaked, and margined, very convex, deep red, finely and distinctly punctured all over. The valves being distinctly punctured in this species seem to mark the only difference between it and the Ch. lævis, in which they are faintly but evidently striate only: size of the last.

It is probable that the Chiton ruber, so very slightly mentioned by Laskey in the Memoirs of the Wernerian Society, as being transversely striate, is only the Ch. lævis of a deeper color.

Found by Mr. O'Kelly, at Portmarnock, Ireland. *v. m.*

5. Chiton fascicularis. *Tufted Canoe-shell.* Fig. 9.

Montagu, pl. 27. f. 5—*Dorset Cat.* pl. 1. f. 1—*Linn. Trans.* viii. pl. 1. f. 1—*Wood*, pl. 2. f. 6.

Shell with eight valves, finely shagreened but not distinctly punctured, slightly ridged and beaked down the back, the margin surrounded with tufts of whitish hairs, one

ne at the juncture of each valve and two in the front, aking eighteen in all: color brown or dark grey, often ıottled: length more than half an inch.

On shells and under stones. *v. v.*

6. Chiton albus. *White Canoe-shell.*

Dorset Cat. pl. 1. f. 3—*Linn. Trans.* viii. pl. 1. f. 4.

Shell with eight valves, smooth, not ridged nor beaked own the back, pure white; the first valve notched on the inder edge: length not a quarter of an inch.

On shells and sea-weed: rare. *v. v.*

7. Chiton crinitus. *Hairy Canoe-shell.*

Pennant, pl. 39. f. 1, and A. 1. magnified.

Shell with seven valves, thickly clothed with short hairs: ɜngth five lines.

It is probable that this obscure species may, like the Ch. eptemvalvis of Montagu, be only an accidental variety of ℌh. marginatus or some other. The short hairs might, ıpon examination, have been a Conferva, young Fucus, or aarine substance, such as is often seen on shells, particuırly Nerites.

At Aberdeen and Sandwich.

CYPRÆA. *COWRY.*

Shell with a single valve, oval, involute, obtuse at the ends: aperture very narrow, reaching the vhole length of the shell, toothed along both the ips.

1. Cypræa Pediculus. *Nun Cowry.* Fig. 14, 15.

Da Costa, pl. 2. f. 6—*Donovan,* pl. 43.

Shell polished, tumid, without the longitudinal groove m the back, surrounded with numerous transverse ribs vhich terminate within the lips and give them a notched ıppearance, some of them forked, or divided by intermeliate shorter ones: color white, yellowish, pink, or chesıut brown: the inner-lip at the more protruded end is ɔroad, with a depression which narrows and lessens as it ɟets towards the middle of the shell.

In

In most specimens there may be also observed a slight tendency to protrusion at the more obtuse end or crown, which in some forms a very visible point, or, as it were, the incipient rudiment of a spire; and in the smooth variety, the faint lines of two volutions may be evidently discovered, which in the still more transparent C. bullata of Montagu are elongated into manifest spires: length about half an inch.

The following are the known British varieties: the foreign one, with the groove down the back, we can only consider as a variety.

A. strongly ribbed, with from two to four colored spots on the back. *v. v.*

B. smaller, ribbed, and without spots. *v. v.*

Cypræa arctica. *Lister*, pl. 707. f. 57—*Pennant*, pl. 78, uppermost fig.—*Dorset Cat.* pl. 22. f. 6.

C. smooth, white, polished, much smaller, semitransparent, with clear transparent lines in the place of the ribs. *v. m.*

These are found in the West of Ireland, and, except for the highly polished surface, appear to be worn down.

D. Very thin and semitransparent, glossy white or with a pale purplish tinge, sometimes faintly striate half way from the back to the inner lip, the other half with extremely thin longitudinal striæ; the outer-lip not thickened at the edge which is finely crenate; inner-lip faintly teothed: crown slightly produced, and forming two or three small volutions. *v. m.*

For this rare and beautiful variety, which from its size, apparent volutions, and general appearance, may create a reasonable suspicion of its being a distinct species, but is at present considered as merely a young and unformed shell, we are indebted to Miss Lawless of Dublin, a naturalist of rare and excellent discrimination and industry, who in a single excursion on the celebrated strand of Portmarnock has been known to collect more than a hundred different species.

Cypræa bullata. *Montagu*, pl. 6. f. 1.

DENTALIUM.

DENTALIUM. *TOOTH-SHELL.*

Shell with a single valve, linear, tubular, not vided into chambers, open at one or both ends.

1. Dentalium Entalis. *Common Tooth-shell.*

Lister, pl. 547. f. 2, and pl. 1056. f. 4—*Pennant*, pl. 93. *b*—*Da Costa*, pl. 2. f. 10—*Donovan*, pl. 48—*Dorset Cat.* . 22. f. 10.

Shell slender, tapering, a little curved, opake, glossy, en at both ends, smooth or marked with a few circular ins or obscure annulations: color white or yellowish-hite, with mostly a rufous tinge towards the smaller end: ngth an inch and a half; diameter at the larger end two-sths of an inch, and one-fourth as much at the smaller.

Sandy shores of England and Ireland. *v. m.*

2. Dentalium Dentalis. *Small Tooth-shell.*

Shell slender, tapering to a fine point, slightly curved, pake, open at both ends, regularly and closely striate the hole length, the striæ thirty or more in number, with ben a few faint annulations at the larger end: color hite or brownish-white, mostly rufous at the smaller end: ngth about half an inch.

On the western coasts: often found in the stomach of the lunard. *v. m.*

3. Dentalium eburneum. *Ivory Tooth-shell.*

Shell a little taper and slightly bent, open at both ends, mitransparent, ivory white but not glossy, often marked ith obscure dark purple spots disposed in longitudinal ws, with regular fine raised longitudinal ribs, eighteen or enty in number, and generally a smaller one between ich of them; the lower end not pointed, with a roundish-al aperture: length seven eighths of an inch; breadth at e largest end the eighth of an inch, at the smaller end ost half as much.

This species has been possibly mistaken for the D. Dentalis, but may be distinguished at a single glance. The tter shell is of a brownish color, and conical or funnel-

shape form, being full two tenths of an inch wide at the larger end, and tapering to hardly the twentieth part of an inch at the smaller end, which terminates in a small circular perforation; the striæ are also much finer, double the number of our present species, and stronger at the pointed end, whence they gradually lessen, so as to become hardly visible at the larger end. Our present shell, which is not uncommon on the western coast, tapers very little, and has the striæ equally strong throughout. *v. v.*

4. Dentalium striatulum. *Striated Tooth-shell.*

Lister, pl. 547. f. 1, lower fig.

Dentalium octangulum. *Donovan*, pl. 162.

Shell slender, tapering to a fine point, slightly curved, semitransparent, open at both ends, with eight longitudinal angular ribs, between each of which are three or four very obtuse longitudinal striæ: color greyish-white, pale rufous, or green with a white tip: length about two inches.

Cornish and Devon coasts: very rare. *v. m.*

5. Dentalium labiatum. *Proboscis Tooth-shell.*

Shell nearly cylindrical, very slightly tapering and curved, semitransparent, ivory white, covered when fresh with a black glossy skin, most finely and minutely striate longitudinally, open at the larger extremity, the smaller end truncate, with the flattened surface somewhat undulated in a radiate manner and finely striate circularly, from the centre of which projects an oval transparent process or lip terminating in an oval aperture, one side of which is cloven half way down: length an inch or rather more; breadth at the open end two tenths of an inch.

A few specimens of this species have very lately been brought to us alive, taken by the trawl at Torbay: the animal is cylindrical, white, with a small central tube at the larger end, and a spoon-shaped mouth at the other. *v. v.*

6. Dentalium politum. *Polished Tooth-shell.*

Shell somewhat cylindrical, slightly tapering and a little curved, semitransparent, quite smooth and finely polished, white with generally some irregular grey circular bands which grow darker and more combined together towards the narrower extremity, open at both ends; the smaller end very

very obtuse, not truncate, but rounded, with an oval perforation: length an inch; breadth at the larger extremity two tenths of an inch; at the smaller end one eighth.

The outline of this shell very much resembles that of the D. labiatum; but its polished surface, rounded termination at the smaller end, and the want of the projecting lip, strongly mark its distinction. We believe it to be very rare, as we have yet been able to obtain two living specimens only, both of them dredged up at Torbay. *v. v.*

7. Dentalium semistriatum. *Semistriated Tooth-shell.* Fig. 68.

Shell very slender, tapering to a very fine point, glossy, transparent, a little curved, open at both ends, quite smooth on the upper part, the lower part marked with numerous fine longitudinal striæ, which are very distinct at the point, but grow fainter towards the middle and at length totally disappear: color clear white, with a pale rufous tinge at the smaller end: length more than an inch; diameter at the larger end not the twentieth part.

Two specimens of this new and very delicate species were found near the Pigeon-house, in Dublin bay. They are much more transparent than the last, much thinner in substance, much longer in proportion to the breadth, and are faintly but evidently striate on the lower part only. *v. m.*

8. Dentalium imperforatum. *Imperforated Tooth-shell. Walker*, f. 15.

Shell slender, slightly curved, whitish, transversely striate; the larger end a little contracted at the margin; the smaller end closed, and furnished with a small round protuberance: length the eighth of an inch.

In Falmouth harbour: very rare.

9. Dentalium clausum. *Closed Tooth-shell.*

Shell slender, slightly tapering, nearly straight, semitransparent, horn-color or yellowish-white, irregularly striate longitudinally, open at the larger end, with the opposite end closed and obtuse: length an inch; diameter at the open end the eighth of an inch.

Two specimens only of this species have as yet occurred to us, both of them collected on the Calves Islands, in the west of Ireland. The size, the longitudinal striæ, and the want of the contraction at one end and the knob at the other, sufficiently distinguish it from D. imperforatum. *v. m.*

The difficulty of procuring living or very perfect specimens of the several species of this family, has no doubt contributed much to their obscurity. In all our specimens of what we consider to be the true D. Entalis, the aperture at the pointed extremity is oval, with a small slit down the back or convex side; and in our most perfect specimen, just below the orifice at the smaller end, is a circular groove, as if it had been indented by a tight ligature.

10. Dentalium glabrum. *Smooth Tooth-shell.*

Montagu, p. 497.

Shell curved, of equal diameter at both ends, glossy white, quite smooth; one end open, the other closed rounded and slightly margined: length hardly a line.

On the Devonshire coast, and North Britain: rare. *v. m.*

11. Dentalium Gadus. *Hake's Tooth-shell.*

Montagu, pl. 14. f. 7.

Shell slender, tapering to a fine point, slightly curved, open at both ends, narrowed at the larger end beneath which it is inflated: color white, glossy, and quite smooth: length about three eighths of an inch.

In the ocean, brought up with the sounding lead. *v. v.*

12. Dentalium Trachea. *Windpipe Tooth-shell.*

Montagu, pl. 14. f. 10.

Shell a little tapering, curved, marked with regular strong rounded transverse ribs or annulations, not contracted at the larger end; the smaller end closed, truncate, and furnished with a small round protuberance: color rusty-brown, paler towards the smaller end: length above the eighth of an inch.

It differs from the last, in being more curved, in its color and strong ribs, and in having no contraction at the top.

On Milton sands; very rare.

DONAX. *WEDGE-SHELL.*

Shell with two valves, with the cartilage side ry obtuse and abrupt: hinge with two primary eth, and a single remote lateral one on the poste- or side.

1. Donax Trunculus. *Smooth Wedge-shell.*

Lister, pl. 376. f. 217—*Pennant*, pl. 58. f. 1—*Da Costa*, 14. f. 3—*Linn. Trans.* vi. pl. 16. f. 13, 14, 15, 16—*Donax*, pl. 29. f. 1—*Dorset Cat.* pl. 6. f. 3.

Shell oblong, rounded at one end and a little produced at e other, glossy, covered with a thin pale chesnut or ve-green skin, finely striate longitudinally with often a r irregular transverse striæ near the pointed end, a little ntracted at the margin near the pointed end: color yel- ish-white, with a few faint rays from the beak to the rgin, and generally a few brown and purple transverse nds; the margin finely toothed: beaks small, near the rupt end; inside rich purple: length more than half an ch; breadth an inch and a half.

Sandy coasts of England, Ireland, and Scotland. *v. v.*

2. Donax denticulata. *Toothed Wedge-Shell.* Fig. 19.

Lister, pl. 376. f. 218—*Dorset Cat.* pl. 5. f. 12—*Pennant*, pl. 58. f. 2.

Donax crenulata. *Donovan*, pl. 24.

Shell strong, thick, somewhat wedge-form, abruptly oped at the larger end, where it is truncate and much ore convex, with a prominent ridge from the beak to the argin, dividing the slope in the middle; finely striate lon- tudinally, and punctured in the interstices; on the part the slope next the margin, towards the hinge, the striæ come transverse and undulated: color whitish, brown- h, yellowish or purple, with mostly a few longitudinal rple rays from the beak; inside white, the margin finely tched: beaks near the larger end; teeth strong, with a teral one on each side the middle ones: length seven ths; breadth an inch.

On Weymouth and Dawlish sands: very rare. *v. r.*

3. Donax complanata. *Flat Wedge-shell.*

Lister, pl. 384. f. 227—*Montagu*, pl. 5. f. 4.

Shell oblong, smooth, glossy, with often a few faint distant transverse striæ, but no longitudinal ones: color yellowish or purplish, often covered with a polished skin, with white streaks or spots, and a single broad white longitudinal ray from the beaks to the margin, the edges of which are ferruginous; inside purple, with the margin plain: teeth small; beaks nearer one end: length five eighths of an inch; breadth an inch and a quarter.

From D. Trunculus it may be readily distinguished, by the more flattened form, the single white ray, and more especially by the plain and smooth margin.

Devon, Dorset, and Cornish coasts: very rare. *v. m.*

4. Donax plebeia. *Plebeian Wedge-shell.*

Lister, pl. 389. f. 228—*Montagu*, pl. 5. f. 2—*Dorset Cat.* pl. 5. f. 13.

Shell oblong, somewhat oval, thick, strong, smooth, glossy, with a few distant transverse furrows, dull yellowish horn-color, rarely white, with generally two longitudinal brown rays from the beaks to the margin; inside glossy and paler, with the margin smooth: beaks near one end; teeth remarkably large and strong, with a single lateral one: length hardly half an inch; breadth three quarters.

Weymouth, and North Britain: very rare. *v. m.*

5. Donax castanea. *Chesnut Wedge-shell.*

Montagu, pl. 17. f. 2.

Shell strong, glossy, smooth, with a few irregular transverse wrinkles: color chesnut, with a single darker longitudinal ray, curving from the back to the larger end, and dividing each valve into two nearly equal parts, the color becoming paler towards the posterior end; inside the same color, with a slight trace of the ray at the margin, which is smooth: beaks obtuse, rather inclining to the longer side, with one of the teeth very large, the other small, without lateral ones.

It differs from the last, in the obliquity of the teeth, which are bent in a recurved manner and are not furnished with lateral

lateral ones, and in the beaks inclining a little to the longer end: length a quarter of an inch; breadth three eighths.

Devonshire, and North Britain: very rare. *v. m.*

6. Donax rubra. *Red Wedge-shell.*

Montagu, Suppl. p. 38.

Shell wedge-form, smooth, truncate at one end, of an uniform reddish color, inside the same, with the margin smooth: beaks obtuse; hinge with two teeth in each valve, placed angularly, and approaching each other at their summits: breadth not a line.

Devonshire coasts, among Corallines: very rare.

7. Donax Irus. *Piercer Wedge-shell.*

Da Costa, pl. 15. f. 6, left hand fig.—*Donovan*, pl. 29. f. 2—*Dorset Cat.* pl. 12. f. 6, left hand fig.

Shell somewhat oval, rugged, varying much in shape, sometimes nearly as long as it is broad, sometimes twice as broad as it is long, sometimes nearly flat, and often very convex, brownish white, with numerous rather close-set transverse-broken or undulated membranaceous ridges which reflect upwards and are stronger towards one end, the interstices finely striate longitudinally; inside white or flesh-color, with more or less of a purple tinge, the margin plain and smooth: beaks small, nearer one end, much curved; teeth small, often three together giving it the appearance of a Venus, two of them cloven: length about a quarter of an inch.

Western coasts, and Howth in Ireland, imbedded in the hardest limestone. *v. v.*

HALIOTIS. *SEA-EAR.*

Shell with a single valve, ear-shaped, almost entirely open, with a longitudinal row of orifices towards the outer margin; spire lateral, and flat upon the shell.

1. Haliotis tuberculata. *Tubercled Sea-ear.* Fig. 66.

Lister, pl. 611. f. 2—*Pennant*, pl. 91—*Da Costa*, pl. 2. f. 1, 2—*Donovan*, pl. 5—*Dorset Cat.* pl. 22. f. 1, 2.

Shell thick, strong, opake, rough, flat, oval, striate longitudinally,

gitudinally, ribbed or wrinkled transversely, with a longitudinal ridge near the thicker margin beset with tubercles, which towards the thinner end become larger flat and concave, the last six or eight of them perforated; the other end with a single slightly raised spire, surrounded circularly with a continuation of the gradually decreasing tubercles, and ending in an obtuse point; below the ridge is a furrow and a small rib, behind which the margin is rounded and turned in; the outer margin very thin and plain: color reddish-brown, sometimes spotted or marbled; inside concave, glossy and richly perlaceous: length sometimes four inches, and three in breadth.

Guernsey and Jersey, on rocks at low-water mark; rarely thrown up on the western coasts, Bullock in Ireland, and North Britain. *v. m.*

HELIX. *SNAIL-SHELL.*

Shell with a single valve, spiral, more or less transparent and brittle: aperture contracted, roundish or crescent-shaped.

Obs. There ever has been, and probably ever will be, a difficulty in making precise and definite limits between this family and that of the Turbo. It may therefore be necessary to understand, that all which have an orbicular aperture, however transparent and brittle they may be, are ranged with the latter genus. The student who finds any difficulties on this point, will, by turning to the proper division of each family, easily have his difficulties removed.

A. *Flattened, with an acute keel-like ridge.* 1 to 5.

B. *Not keeled, but perforated or concave.* 6 to 37.

C. *The volutions rounded: imperforated at the base.* 38 to 43.

D. *Shell tapering.* 44 to 51.

E. *Shell oval, without perforation.* 52 to 65.

A. Flattened, with an acute keel-like ridge. 1 to 5.

1. Helix lapicida. *Rock Snail-shell.* Fig. 59, 60.

Lister, pl. 69. f. 68—*Pennant*, pl. 86. f. 1—*Da Costa*, pl. 4. f. 9—*Donovan*, pl. 39. f. 2—*Dorset Cat.* pl. 20. f. 9.

Shell

Shell flattish, a little convex on both sides, semitransparent, with a wide and deep perforation on the underside, strongly and irregularly wrinkled, and crossed in an opposite direction with very fine and minute striæ, giving it a kind of shagreened roughness: spires six, the larger one sloping down on each side so as to form a sharp ridge on the margin, which runs spirally throughout the upper volutions and marks their separation by a fine line, the edges of which appear slightly toothed or crenate by the wrinkles: color dark horny, with deeper blotches: aperture transverse, nearly oval, narrowed to a kind of angle where it meets the keel, a little dilated in the middle, and rounded beneath with a thin sharp white margin which is slightly reflected, and dilated and a little spreading towards the perforation: diameter three quarters of an inch; height about three eighths.

Woods, clefts of rocks, and old walls. *v. v.*

2. Helix subcarinata. *Subcarinated Snail-shell.*

Montagu, pl. 7. f. 9—*Walker*, f. 22.

Trochus rugosus. *Brown, Wern. Soc.* pl. 24. f. 5.

Shell rather convex, semitransparent, white or pale rust-color, sometimes glossy, but generally appearing as if frosted: spires four, well defined and finely striate longitudinally, with two fine circular raised lines round the base of the body volution and one on the upper part, which last continues round the middle of the second volution, and is obliterated in the line of junction towards the top: from the lower ridge at the base commences a semicircular channel which terminates in a large and deep perforation: aperture roundish oval; the outer-lip projecting and thin; inner-lip reflected, spreading into a sharp angle, and raised on the body of the volution: diameter one tenth of an inch; height more than half as much.

In fine sand, on the western coasts, Kent, and Dublin bay. *v. m.*

3. Helix planorbis. *Bordered Snail-shell.*

Montagu, pl. 25. f. 1.

Helix planata. *Linn. Trans.* viii. pl. 5. f. 14—*Dorset Cat.* pl. 20. f. 18.

Shell

Shell flat, semitransparent, pale horn-color with sometimes a rufous tinge, concave on both sides: spires four or five, a little sloping on each of the sides, finely striate across; the largest with a slight prominent ridge placed exactly in the middle of the margin: aperture compressed, with a rather acute termination at the upper end; the lower end oblique, one side being more elongated than the other: diameter about half an inch.

It differs from the next, in having the circular ridge round the margin of the body volution placed exactly in the middle, giving the shell a more convex appearance; in the paler color and greater fragility; and in the aperture being oval.

Stagnant waters, and slow streams. *v. v.*

4. Helix complanata. *Flattened Snail-shell.*

Lister, pl. 138. f. 42—*Montagu*, pl. 25. f. 4.

Helix limbata. *Da Costa*, pl. 4. f. 10, and pl. 8. f. 8.

Helix planorbis. *Pennant*, pl. 86. f. 2—*Linn. Trans.* viii. pl. 5. f. 13—*Dorset Cat.* pl. 14. f. 8, and pl. 20. f. 10.

Shell flat, semitransparent, brown, chesnut, or nearly black, concave on both sides: spires four or five, rather rounded, slightly striate across; the largest with a faint prominent circular ridge round the margin and placed at the base, and all well defined by the line of separation: aperture oblique, one lip reaching further down the volution than the other, rather rounded at the top: diameter more than half an inch.

In consequence of the keel or ridge being placed not in the middle of the margin but at the base, the under side of the volution does not slope so much down to the edge as the upper, giving the shell a flatter appearance; and consequently the upper edge of the lip is not so acute.

Ponds, ditches, and stagnant waters. *v. v.*

5. Helix Vortex. *Whirled Snail-shell.*

Lister, pl. 138. f. 43—*Pennant*, pl. 86. f. 4—*Da Costa*, pl. 4. f. 12—*Donovan*, pl. 75—*Dorset Cat.* pl. 20. f. 12.

Shell very flat, semitransparent, horn-color, concave on one side, with six or seven close-set and well defined spires, the largest one with a slight ridge round the margin

gin near the base: aperture nearly oval, compressed, rather acute towards the top: diameter hardly half an inch.

It differs from the two last in the number and compactness of the volutions.

In ponds and ditches. *v. v.*

B. *Without keel; perforated or concave.* 6 to 36.

6. Helix cornea. *Horn Snail-shell.* Fig. 52.

Lister, pl. 137. f. 41—*Pennant*, pl. 86. f. 3—*Da Costa*, pl. 4. f. 13—*Donovan*, pl. 39. f. 1—*Dorset Cat.* pl. 20. f. 13.

Shell flattish, semitransparent, reddish or blackish horn-color, becoming white with age, concave on one side and a little depressed on the other: spires four or five, separated by a deep line, the first large and well rounded, wrinkled across, with often a larger transverse ridge or two not far from the aperture: aperture somewhat crescent-shaped, a little oblique downwards; inner lip slightly spread on the body, whitish at the angles and round the inner-margin: diameter an inch or rather more.

Ponds and old water-courses. *v. v.*

7. Helix spirorbis. *Spiral Snail-shell.*

Montagu, pl. 25. f. 2—*Dorset Cat.* pl. 20. f. 17.

Shell flat, brown horn-color, concave on both sides: spires six, rounded and close-set, finely striate across: aperture ovil, sometimes inclining to circular, but always attached to the body volution at the sides, a little oblique: diameter about a quarter of an inch.

It differs from H. Vortex, in not having any ridge or keel on the body volution.

Ponds and still waters. *v. v.*

8. Helix rhombea. *Rhombic Snail-shell.*

Shell flat, semitransparent, a little concave on both sides, whitish or tinged with rufous, often covered with a rough brown skin: spires four, smooth, well defined by the line of separation, the larger volution compressed or flattened on the back so as to give it a slightly carinated appearance at the edge on both sides, which however is much stronger underneath: aperture obliquely rhombic, in consequence of

of the flattened surface of the outer volution, and sometimes produced into an oblique angle at the upper and outer end, the margin thin, and slightly embracing the next volution at the sides: diameter the tenth of an inch.

This new species, sufficiently distinct from any of its division by the mouth, which forms an oblique parallelogram, resembles the H. albina of Gmelin, except that it is nearly equally concave on both sides: we have as yet only found it, attached to the cases of the Phryganeæ, in its larva state, in the pond at Glasnevin botanic garden, near Dublin, where they are met with in tolerable abundance. These cases are chiefly clothed with this shell, the H. planorbis and planata; Turbo fontinalis, and the young of Tellina cornea. *v. v.*

9. Helix contorta. *Coiled Snail-shell.*

Montagu, pl. 25. f. 6—*Da Costa*, pl. 4. f. 11—*Donovan*, pl. 99—*Dorset Cat.* pl. 20. f. 11.

Shell flat, horn-color, sometimes rufous or whitish, concave in the very centre only on one side, but largely and deeply so on the other: spires six, rounded, finely striate, deeply divided by the line of separation: aperture narrow crescent-shaped, like the moon in its first quarter, pointed at the sides: diameter hardly two tenths of an inch.

It differs from H. spirorbis, in the deep cavity on one side, the narrow aperture, and the number and compactness of the volutions.

Ponds and wet ditches. *v. v.*

10. Helix alba. *White Snail-shell.*

Montagu, pl. 25. f. 7—*Dorset Cat.* pl. 19. f. 18—*Walker*, f. 19.

Shell flattish, pale horn-color, semitransparent, often covered with a brown skin, slightly concave on one side and more deeply so on the other: spires four, finely rounded, very closely but distinctly striate both across and circularly; the larger volution very faintly inclining to an edge or keel: aperture somewhat orbicular or crescent-shaped, a little oblique and clasping the spire: diameter a quarter of an inch.

Ponds and slow streams. *v. v.*

11. Helix

11. Helix fontana. *Fountain Snail-shell.*

Montagu, pl. 6. f. 6—*Dorset Cat.* pl. 19. f. 19.

Shell very flat, horn-color, transparent, smooth, a little concave in the centre on both sides, but more deeply and distinctly so on one side: spires four, a little concave in the centre on both sides, but more distinctly so on one; the outer volution with a faint ridge-like appearance, formed by the gradual slope of the primary volution on each side: aperture contracted, half oval, a little pointed at the top, oblique, the edges very thin and taking in half the body volution at their point of contact: diameter hardly two tenths of an inch.

In fresh waters: not common. *v. v.*

12. Helix Ericetorum. *Heath Snail-shell.*

Lister, pl. 78. f. 78—*Pennant*, pl. 88. f. 5—*Montagu*, pl. 24. f. 2—*Donovan*, pl. 151. f. 2—*Dorset Cat.* pl. 20. f. 8.

Shell semitransparent, a little convex on one side, with a large and deep perforation on the other: spires six or seven, well defined, the primary one large and finely rounded, striate across: color whitish or grey, often pale nebulous, with mostly a brown band on the upper part of the larger volution which continues round the edge of the smaller ones, and frequently several small girdles at the base; sometimes it is variegated with brown, the bands often lighter and more transparent, and sometimes they are hardly discernible: the tip or termination of the spires dark polished brown: aperture somewhat orbicular, slightly crescent-shaped, attached half way down the body volution: diameter nearly an inch.

Dry sunny banks, and warm walls. *v. v.*

13. Helix cingenda. *Banded Snail-shell.*

Lister, pl. 78. f. 79—*Montagu*, pl. 24. f. 4—*Pennant*, pl. 88. f. 2—*Linn. Trans.* viii. pl. 5. f. 6—*Dorset Cat.* pl. 18. f. 7.

Shell semitransparent, rather convex, reddish or yellowish-white, with numerous narrow spiral zones of a chestnut or chocolate-brown color placed at irregular distances, but generally divided into sets of three or four each by broader whitish bands, and often interrupted so as to form short streaks, especially towards the top, where they become

come obsolete: spires five or six, the larger ones rounded, but a little flattened near the line of separation, irregularly wrinkled longitudinally, and crossed by very fine obsolete circular lines, so as to give them a minutely reticulate appearance when examined by a glass; the tip a little flattened, and defined by a black spiral line; the base slightly but deeply perforated, whitish, with generally a band in the middle composed of two or three narrow chocolate zones, the interstices of which are of a reddish color: aperture crescent-shaped, inclining to oblong, the margin thin and reflected over the perforation, with usually a raised line round it on the inside near the edge, as in H. virgata.

Sometimes it is found nearly plain, or with only a few faint girdles on the body volution; but may always be distinguished from H. virgata, by its larger size and proportional breadth, the flattened top and slightly flattened volutions, and its numerous but very narrow zones: breadth three quarters of an inch; height half an inch.

Dry sandy heaths near the sea. *v. v.*

14. Helix virgata. *Zoned Snail-shell.*

Lister, pl. 59. f. 56—*Montagu*, pl. 24. f. 1—*Da Costa*, pl. 4. f. 7—*Dorset Cat.* pl. 20. f. 7—*Pennant*, pl. 88. f. 3.

Helix zonaria. *Donovan*, pl. 65.

Shell convex at top, semitransparent, irregularly wrinkled across, with a deep but narrow perforation; spires six, rounded and well defined, white with a rufous tinge; the body volution with a single purplish-brown band winding round the middle and continuing at the base of the rest quite up to the top, beneath which is generally a smaller white one; at the under part are three or four very fine circular zones, and often two or three broader ones at the base, sometimes interrupted with white spots, none of them however close to the perforation: aperture somewhat orbicular, oblique, the margin reddish and reflecting over the perforation, within pale purplish-brown, with a white or purplish thread-like raised line round the margin and a little within it: length about half an inch; height hardly as much.

Variety A. Pale rufous-brown or greyish, with an obscure

scure narrow whitish band on the middle of the body volution.

This variety might be mistaken for the H. rufescens, but for its much greater convexity, and the raised line within the lip of the aperture.

Variety B. Dark chocolate brown and somewhat glossy, with sometimes a few whitish marks, and a milk-white band round the middle of the body volution, and continued at the base of the rest to the top.

Maritime pastures and dry banks. *v. v.*

15. Helix caperata. *Blachtipped Snail-shell.*

Montagu, pl. 11. f. 11.—*Dorset Cat.* pl. 19. f. 20.

Shell rather flattened at top, semitransparent, with a large and deep perforation: spires six, closely and regularly striate across, the larger one appearing as if slightly ridged by the flatness of the volutions: color white or blueish-white with purplish brown bands, generally one on the body volution, continuing up the lower part of the rest; at the base are several zones, often broken, and appearing like chains of spots; sometimes it is dark chocolate brown, or grey, with a white belt and spots, and sometimes inclining to rufous; the tip black or dark brown; aperture somewhat orbicular, the inner lip a little reflected over the perforation: diameter rarely half an inch; height a quarter.

From all the varieties of H. virgata it may be distinguished, in not being so much produced, in the strong and regular striæ, in the subcarinated appearance of the outer volution, and in wanting the thread-like rib round the inside of the lip.

Upon the examination of numerous living specimens, we could never perceive the crenulations which Mr. Dillwyn says are formed by the junction of the striæ at the subcarinated margin of the outer volution, and from which he has assimilated it with the H. crenulata of Gmelin. This ridge is, in fact, hardly to be discerned, and the striæ are continued regularly and without interruption round it.

Dry hedge banks in the west of England, and Bullock in Ireland: rather rare. *v. v.*

16. Helix rufescens. *Rufous Snail-shell.*

Lister, pl. 71, lower fig.—*Montagu*, pl. 23. f. 2—*naut*, pl. 88. f. 6—*Da Costa*, pl. 4. f. 6—*Donovan*, pl. f. 1—*Dorset Cat.* pl. 20. f. 6.

Helix hispida. *Donovan*, pl. 151. f. 1.

Shell a little raised at top, semitransparent, rathe tuse, irregularly striate across, with a rather large deep perforation: color rufous or orange brown with s times a chocolate tinge, often dull ash-color, and frequ mottled or marbled with paler or darker blotches, r appearing as if faintly zoned underneath: spires six larger volution a little compressed, forming a slight of keel, where it is marked by a narrow pale band, which it is rather convex: aperture crescent-sh slightly compressed in the middle, purplish at the near the perforation over which it is something sp diameter half an inch.

When young it is often clothed with short hairs, a this state mistaken for H. hispida, from which it m easily distinguished by the subcarinated ridge acco nied by the pale band.

In woods, and under stones. *v. v.*

17. Helix Cantiana. *Kentish Snail-shell.*

Montagu, pl. 23. f. 1—*Dorset Cat.* pl. 19. f. 21.

Helix pallida. *Donovan*, pl. 157. f. 2.

Shell semitransparent, slightly depressed and stria a pale blueish or lead color tinge, especially toward top, very much resembling the last, but is larger and out the subcarinated edge, but has often a faint band, with the base and round the mouth rufous, an perforation is smaller: diameter about three-quarters inch.

Woods and hedges, especially in Kent, and Cork.

18. Helix nitens. *Glossy Snail-shell.*

Linn. Trans. viii. pl. 5. f. 7—*Dorset Cat.* pl. 19. f.

Helix lucida. *Montagu*, pl. 23. f. 4.

Shell flattish at top, thin, transparent, glossy, faintly striate, fulvous horn-color or whitish, more

and generally with a greenish cast at the base, with a large and deep perforation: spires five or six, the body volution finely rounded at the margin: aperture crescent-shaped, with the margin thin and not reflecting over the perforation: diameter nearly half an inch, and about two tenths in height.

Wet woods, and under stones. *v. v.*

19. Helix hispida. *Bristly Snail-shell.*

Montagu, pl. 23. f. 3—*Da Costa*, pl. 5. f. 10—*Donovan*, pl. 151. f. 1—*Dorset Cat.* pl. 21. f. 10.

Shell very convex, thin, transparent, finely striate across, with a small perforation: spires five, rounded, covered with fine short hairs which give it a whitish downy coat: aperture roundish crescent-shaped, reflected at the angle near the perforation: diameter a quarter of an inch.

Shady places, and under stones. *v. v.*

20. Helix radiata. *Radiated Snail-shell.*

Lister, pl. 1058. f. 11—*Montagu*, pl. 24. f. 3—*Da Costa*, pl. 4. f. 15, 16—*Dorset Cat.* pl. 20. f. 15, 16.

Shell flattish, a little raised on the upper side and convex beneath, chesnut-brown with paler rays from the centre to the margin, with a very large and deep perforation exhibiting the internal volutions: spires six, well defined by the line of separation, crossed with regular close-set fine and rather curved raised lines; the body volution a little flattened, with a very faint keel-like ridge in consequence of the convexity underneath: aperture roundish crescent-shaped, not reflected over the perforation: diameter a quarter of an inch.

Variety, of a greenish-white color, without rays, and semitransparent.

This very beautiful variety has, we believe, hitherto been only found at Dinton, in Buckinghamshire.

Moist places, and under stones. *v. v.*

21. Helix rotundata. *Rounded Snail-shell.*

Shell quite flat and level on both sides, dark horn-color with transverse chesnut marks or blotches, which however

are not disposed in a regular radiate manner, with the perforation rather large, but not exhibiting the internal volutions: spires six, rounded and well defined, crossed with regular close-set fine rather oblique raised lines; the larger volution rounded at the margin and without the faint keel-like appearance: aperture large roundish crescent-shaped, the margin thin and not reflected over the perforation: diameter not a quarter of an inch.

This species, sufficiently distinguished from H. radiata, in being quite flat on both sides, and in not having the slightest keel-like appearance on the margin of the outer volution, was found by the author in the woods near Brecon. Mr. Dillwyn thinks that our former species, H. radiata, is the H. rotundata of Gmelin and Muller, observing that it is different from H. radiata, which latter species however he has not described. *v. v.*

22. Helix umbilicata. *Open Snail-shell.*

Montagu, pl. 13. f. 2—*Dorset Cat.* pl. 19. f. 24.

Shell raised and obtuse on the upper side, a little convex at the base, semitransparent, dark horn-color or chocolate brown, finely striate across, with a large and deep perforation: spires five, much rounded and deeply divided by the line of separation: aperture roundish crescent-shaped, not reflected over the perforation: diameter the tenth of an inch.

It differs from the young of H. radiata, in being much more convex, of an uniform dark chocolate brown color, and in not having the least trace of the subcarinated edge on the margin of the body volution.

Under loose stones on the tops of walls and the loftiest buildings, and the crevices of high rocks, in various parts of England and Ireland. *v. v.*

23. Helix trochiformis. *Top-shaped Snail-shell.*

Montagu, pl. 11. f. 9.

Shell produced at top, thin, transparent, smooth, glossy, horn-color with sometimes a rufous tinge, with a very small perforation which is hardly distinguishable in young shells: spires six, rounded and deeply divided by the line of separation: aperture compressed, somewhat crescent-shaped,

shaped, the pillar-lip a little reflected over the perforation: diameter about the tenth of an inch; nearly as much high.

On decayed wood: very rare. *v. m.*

24. Helix elegans. *Elegant Snail-shell.*

Gmelin, p. 3642—*Lister*, pl. 61. f. 68.

Trochus terrestris. *Pennant*, pl. 83. f. 5—*Donovan*, pl. 111.

Shell thin, conic but rather obtuse at the top, finely striate longitudinally: spires five or six, flattish, divided by a fine depressed line, and marked with a prominent ridge round the base of each: color livid white, with sometimes a brown line round the middle of the volutions; the base flattened, with a strong carinated edge round it, and striate in a radiate manner from the centre: aperture much compressed, with a small perforation behind the pillar: diameter more than a quarter of an inch; height not quite so much.

This species has a much greater resemblance to a Trochus than the last, from which it is distinguished by its more conical shape, the flat volutions, and the carinated ridge that winds round their base. It is not uncommon on the continent, but we believe has only been found as British on the mountains of Cumberland and Northumberland. *v. m.*

25. Helix spinulosa. *Prickly Snail-shell.*

Montagu, pl. 11. f. 10—*Dorset Cat.* pl. 19. f. 23.

Shell produced at top, thin, semitransparent, with a small perforation: spires five, rounded and distinctly divided by the line of separation, brown horn-color, covered with a tough skin which rises into thin flat membranaceous bristly striate folds or processes, especially round the middle of each volution, giving it the appearance of being ridged with small spines, and which may be easily rubbed off leaving a smooth surface: aperture narrow crescent-shaped: diameter the tenth of an inch, and about as much high.

On decayed wood, and among moss: very rare. *v. v.*

26. Helix

26. Helix Pomatia. *Edible Snail-shell.*

Lister, pl. 48. f. 46—*Pennant*, pl. 87. f. 1—*Da Costa*, pl. 4. f. 14—*Donovan*, pl. 84—*Dorset Cat.* pl. 20. f. 14.

Shell nearly globular, semitransparent, longitudinally wrinkled, reddish-brown with whitish bands, sometimes nearly white with the bands hardly discernible: spires five, the first very large and tumid, with generally four whitish bands, the two lower of which are close together and continue round the next volution, the upper ones dull white; the remaining volutions small and a little produced: aperture large, roundish crescent-shaped; the inner margin a little thickened and white, and spreading over the perforation, which is small: diameter about two inches.

Variety, with the volutions reversed.

Lister, pl. 33. f. 32.

Woods of the southern counties. Dr. Rutty, in his Natural History of the County of Dublin, gives this as an Irish shell, not uncommon in his time; but it has not been found of late. Mr. Dillwyn remarks that the margin of the aperture is slightly margined, which we have not observed in the many specimens under our examination, all of which were, however, dead. *v. m.*

27. Helix Arbustorum. *Shrub Snail-shell.*

Lister, pl. 56. f. 53—*Pennant*, pl. 88. f. 4—*Da Costa*, pl. 17. f. 6—*Donovan*, pl. 136—*Dorset Cat.* pl. 2. f. 6.

Shell nearly globular, semitransparent, glossy, rather pointed at the top, slightly wrinkled, with a very small perforation which is almost obliterated in the old shells: spires five, rounded and well defined, beautifully marbled with chesnut brown and yellowish white; the larger volution with a darker narrow band round the middle, and continuing along the base of the next: aperture crescent-shaped, produced on the fore-part, with a reflected rim round it, and a pure white broad margin within; the pillar white, and spread over the perforation. The dark band on the body volution is sometimes either very faint, or wanting. Diameter more than half an inch; height as much.

Moist boggy woods: not common. *v. v.*

28. Helix

28. Helix resupinata. *Walker*, f. 24.

Shell semitransparent, glossy, horn-color, with the two terminal top spires reversed.

At Sandwich: minute.

29. Helix globosa. *Walker*, f. 25.

Shell globular, opake, white, smooth, glossy, with two volutions: aperture roundish.

At Sandwich: minute.

30. Helix reticulata. *Walker*, f. 26.

Shell white, transparent, elegantly reticulate, slightly perforated, with a single volution: aperture rounded and margined.

At Reculver: minute.

31. Helix unispiralis. *Walker*, f. 27.

Shell white, opake, glossy, concave on both sides, with a single volution: aperture rounded.

At Sandwich: minute.

32. Helix striata. *Walker*, f. 29.

Shell transparent, greenish-white, striate: spires three, reflected on the back: aperture somewhat oval.

At Sandwich: minute.

33. Helix coarctata. *Walker*, f. 30.

Shell white, transparent, with two volutions: aperture roundish, contracted at the perforation.

At Sandwich: minute.

34. Helix tubulata. *Linn. Trans.* iii. pl. 13. f. 35, 36.

Shell longitudinally striate, with three volutions: a margined tube extending beyond the surface of the shell, in the place of a perforation.

At Pembroke: minute.

35. Helix fasciata. *Linn. Trans.* v. pl. 1. f. 20, 21.

Shell white, transparent, slightly perforated, with three volutions; the first tumid, and marked with three belts of a rich marone color: aperture dilated.

Pembrokeshire coast: minute.

36. Helix

36. Helix nitidissima. *Linn. Trans.* v. pl. 1. f. 22 to 24.

Shell horn-color, beautifully glossed, with two volutions, very finely striate transversely.

Pembrokeshire coast: minute.

37. Helix bicolor. *Linn. Trans.* v. pl. 1. f. 25 to 27.

Shell horn-color, opake, white within, quite smooth, with two volutions, and slightly perforated.

Pembrokeshire coast; minute.

These ten last species are very obscure and indistinct; some of them probably the young of other species.

C. *With the volutions rounded; imperforate at the base.* 38 to 42.

38. Helix ianthina. *Blue Snail-shell.*

Lister, pl. 572. f. 24.

Shell somewhat orbicular, obtuse, thin, brittle, transparent, of a whitish color more or less tinged with violet blue or pale purple: spires four, a little rounded and well defined by the line of separation, slightly striate longitudinally in an oblique direction; the first very large, slightly carinate at the base which is of a deeper violet color, and striate both circularly and longitudinally; inside pale violet: aperture dilated; the outer-lip very thin; pillar-lip extending in a straight direction beyond the body from the base, so as to give the aperture a somewhat triangular appearance on that side, and a little curled back so as to form an incipient perforation; breadth half an inch; height about as much.

The following observations, extracted from Cook's Voyages, p. 14, will satisfactorily account for their occasional appearance, wafted by waves and tides, and driven by storms, on the British shores. "We also took several of the shell-fishes, or testaceous animals, which are always found floating upon the water, particularly the Helix ianthina and violacea; they are about the size of a snail, and are supported upon the surface of the water by a small cluster of bubbles which are filled with air, and consist of a tenacious slimy substance that will not easily part with its contents: the animal is oviparous, and these bubbles seem also as a nidus for the eggs. It is probable that it never goes

goes down to the bottom, nor willingly approaches any shore; for the shell is exceedingly brittle, and that of few freshwater snails is so thin: every shell contains about a tea-spoonful of liquor which is easily discharged upon being touched, and which is of the most beautiful red-purple that can be conceived: it dies linen cloth, and it may perhaps be worth enquiry, as the shell is certainly found in the Mediterranean, whether it be not the Purpura of the ancients."

North of Ireland; Bantry bay; Le Hinch in the county of Clare; Portrush; near Kenmare harbour in the county of Kerry; Dunmore; Waterford; Barnstaple; the warren between Dawlish and Exmouth; and Oxwich bay, near Swansea. *v. v.*

39. Helix vivipara. *Viviparous Snail-shell.*

Lister, pl. 1055. f. 6, and Anat. pl. 6. f. 5—*Pennant*, pl. 87. f. 2, and pl. 88. f. 1, the young—*Da Costa*, pl. 6. f. 2—*Donovan*, pl. 87—*Dorset Cat.* pl. 17. f. 2.

The young, before and after exclusion. *Lister*, pl. 1054. f. 30.

Shell thin, transparent, somewhat oval, tapering to a point, slightly striate longitudinally, and generally more strongly wrinkled near the lip: spires five or six, much rounded and separated by a deep line: color olive green, with three dark brown bands on the larger volution, and two on the rest, which grow fainter and become obliterated towards the point: aperture round-oval, contracted a little at the upper part, reflected at the pillar, with sometimes a small perforation behind it; outer lip thin, projecting and rounded in the middle; inside smooth, greenish-white, banded like the outside: length nearly an inch and a half; breadth an inch.

Still waters, and slow rivers. *v. v.*

40. Helix nemoralis. *Girdled Snail-shell.*

Lister, pl. 57. f. 54—*Da Costa*, pl. 5. f. 1 to 5; and 8, 14, 19—*Dorset Cat.* pl. 21. f. 1 to 5; 8, 14, and 19—*Donovan*, pl. 13.

Shell somewhat globular, semitransparent, glossy, finely wrinkled, with five rounded volutions, ending rather obtusely: color and markings extremely various; yellow, greenish,

greenish, purple of various shades, pale pink, whitish, rarely clear white, like the H. Cartusiana; sometimes without bands, or with from one to five broader or narrower ones: aperture roundish crescent-shaped, produced on the front part, slightly reflected, with the margin on the inside brown or clear white, and rarely with intermediate shades or furnished with an elevated rim round it: diameter hardly an inch; height about three quarters.

Those which have the white inside margin are usually smaller: and when young there are only three volutions which are placed quite flat upon the larger one, distinguishable only by the circular line, as in the Nerita littoralis. In this very young state we think Mr. Brown has figured it in the Wernerian Transactions, pl. 24. f. 8, under the name of H. elliptica.

Much confusion has been spread in the careless quotations of Da Costa's figures of this shell. Maton and Rackett, in attempting to arrange the varieties, have included that with the white lip among those which are banded and have a brown lip, omitting it in its proper place. Mr. Rackett, in his Dorset Catalogue, has omitted some of the figures in his own plate, substituting the fig. 6. of Da Costa, which is the Bulla fontinalis. Mr. Dillwyn has omitted the figure of Da Costa with the white lip, and copied Mr. Rackett's error in the reference to the plates of the Dorset Catalogue, including also the Bulla fontinalis.

Common in hedges and gardens. *v. v.*

41. Helix hortensis. *Garden Snail-shell.*

Lister, pl. 49. f. 47—*Pennant*, pl. 87. f. 3—*Da Costa*, pl. 4. f. 1—*Dorset Cat.* pl. 20. f. 1—*Donovan*, pl. 131.

Shell somewhat globular, semitransparent, covered with an irregularly creased and wrinkled skin: spires four, the upper one placed a little on one side, more or less distinctly but obscurely striate circularly: color dirty white or yellowish with generally four tawny bands, often variously interrupted and presenting a marbled appearance: aperture roundish crescent-shaped, produced in front, with a clear white slightly reflected margin extending over the pillar, where it sometimes forms a small perforation: diameter more than an inch.

Variety,

ety, dull yellowish-brown, of a more oval form, and
t bands.
re the lip is fully formed, the shell is very light and
with the margin extremely thin and membrana-
not protruding in front, but perfectly crescent-
, and without any appearance of the white edge;
re is generally a deep perforation behind the pillar-
ich gradually closes as the shell arrives at matu-

riety was found by Dr. Latham, at Dartford, with
res reversed; and another by Mr. Swainson, with
ations much extended and detached from each other,
e worm of a corkscrew.
mon in gardens and hedges. *v. v.*

Helix fusca. *Brown Snail-shell.*

fusca, pl. 13. f. 1.
l thin, transparent, rufous horn-color, very faintly
ed, with five or six rather raised and well defined
ns; the first very large: aperture crescent-shaped;
thin and reflected a little at the lower margin only,
it forms a small depression or incipient perforation:
er three eighths of an inch, and hardly a quarter of
h high.

iety, clear white, transparent, and highly polished.
neighbourhood of London; woods in Dublin; and
riety from Scotland. *v. v.*

Helix variegata. *Linn. Trans.* iii. p. 67.

ll semitransparent, smooth, with red lines: spires
he first more tumid: margin of the aperture very
spread.
Shrokeshire: minute.

Shell tapering to a point. 44 to 51.

Helix disjuncta. *Disjointed Snail-shell.* Fig. 63.

ta elegans. Brown, Wern. Soc. pl. 24. f. 9.
ll transparent, with seven much rounded volutions,
y set together, but very deeply divided so as to ap-
almost detached from each other, slightly striate or

wrinkled across, and ending in an obtuse point: color pale horny, with five brownish bands, the four first close together and narrow, the fifth very narrow and surrounding the bottom of the volution; the four upper ones are marbled with white, with a white band round the middle, giving them a slightly carinated appearance; aperture large, oval, attached to the body at the narrow or pointed end only; the margin very thin, slightly reflected at the inner angle, behind which is a deep perforation: length something more than half an inch; breadth not quite half an inch.

This very beautiful and curious shell was found in the neighbourhood of Dublin, by Mr. Stephens; and in its general contour has much the resemblance of the Turbo scalaris, or Wentletrap, both in the compactness, and the deeply rounded divisions of the volutions. From the similarity of its markings, we should have been almost persuaded to have considered it as a much produced variety of H. Arbustorum; but the number of volutions is seven; the aperture is oval; and it has a large and deep perforation. *v. m.*

45. Helix Terebra. *Sorew Snail-shell.* Fig. 55.

Helix Cochlea. *Brown, Wern. Soc.* pl. 24. *f.* 10.

Shell blackish horn-color, covered with a greenish skin, pyramidal, deeply perforated: spires seven, rather rounded and well defined; the larger volution with a prominent keel-like ridge at the base, which continuing round the two next forms a strong separating line; the other volutions are without this ridge, which gives them the appearance of being much more rounded; the smaller or terminal spire appears detached or separated from its junction with the next, like the turn of a corkscrew, and ends rather obtusely: aperture oval, with a thin margin, attached at the pointed end to the body volution, and slightly angulated by the keel or rib: length somewhat more than half an inch; breadth three eighths of an inch.

Found by Mr. Stephens, in the botanic garden of Trinity College, Dublin. It has something the appearance of H. complanata, both in the mouth and the raised terminal rib, supposing this shell to have been accidentally produced into

into a pyramidal form; but its diameter is much less, and there are seven volutions.

Although we can hardly venture to offer these two last extraordinary shells as distinct and permanent species, their singular excentricity, nevertheless, deserves a determinate record. In the number of volutions, and in many other respects, they both differ from the H. scalaris of Muller and other authors. *v. m.*

46. Helix bifasciata. *Double-banded Snail-shell.*

Lister, pl. 19. f. 14—*Dorset Cat.* pl. 18. f. 8 and 10—*Pennant*, pl. 85. f. 5.

Turbo fasciatus. *Donovan*, pl. 18. f. 1—*Montagu*, pl. 22. f. 1.

Shell taper, thin, semitransparent, coarse, wrinkled longitudinally, greenish-white, with longitudinal brown or chesnut stripes, which are generally broken so as to appear like interrupted bands, and are often confluent on the larger volution, forming a band or two, and sometimes they are almost entirely obliterated: spires nine, a little rounded, and terminating in a rather acute point: aperture nearly oval, the margin thin, reflected a little on the pillar and forming a small hollow behind it: length nearly three quarters of an inch; breadth not two lines.

Sandy maritime pastures. *v. v.*

47. Helix octona. *Taper Snail-shell.*

Lister, pl. 20. f. 15—*Linn. Trans.* viii. pl. 5. f. 10.

Shell very slender, ending in an obtuse point, glossy white or very light horn-color: spires eight, a little rounded and well defined, smooth or very obscurely striate longitudinally: aperture somewhat orbicular, thin and not reflected; the pillar-lip a little reflected and producing a very obscure and hardly perceptible hollow behind it: length five eighths of an inch; breadth about one eighth.

From the next it differs in color, in being of a more taper form and ending more obtusely, in the form of the aperture and slight reflexion of the pillar-lip. From H. Lackhamensis it is immediately discriminated, by having no trace of a reflected or margined aperture.

Supposed, by Dr. Pulteney, to have been found in Dorsetshire.

48. Helix octanfracta. *Eight-spired Snail-shell.*

Pennant, pl. 89. f. 5, not sufficiently taper nor elongated. —*Montagu*, pl. 11. f. 8—*Dorset Cat.* pl. 18. f. 11.

Shell finely tapering to a point, semitransparent, covered with a tenacious blackish skin, under which it is whitish horn-color and polished: spires eight or nine, rather flat but well defined, obscurely striate or wrinkled longitudinally; the larger volution with a few transverse ridges: aperture narrow-oval, contracted to a point at top; the outer-lip very thin; inner-lip forming a ridge-like projection near the base, without the least trace of reflexion or perforation: length five eighths of an inch; breadth barely two eighths.

Cornwall and Devonshire, in still waters: rare. *v. m.*

49. Helix Lackhamensis. *Wiltshire Snail-shell.*

Montagu, pl. 11. f. 3.

Shell oval-oblong, semitransparent, dull rusty-brown, varying to horn-color and grey: spires seven, nearly flat, but well defined, the first three or four of which are tumid, the rest suddenly tapering to an obtuse point, longitudinally wrinkled: aperture whitish or with a purple tinge, somewhat oval, margined and reflected; the inner-lip turned back so as to form a linear cavity behind it: length five eighths of an inch; breadth a quarter.

Lackham and Bow woods, Wiltshire: rare. *v. m.*

50. Helix obscura. *Dusky Snail-shell.*

Montagu, pl. 22. f. 5—*Linn. Trans.* viii. pl. 5. f. 11—*Walker*, f. 41—*Dorset Cat.* pl. 19. f. 27.

Shell oval-oblong, rather obtuse, opake, brown horn-color: spires from five to seven, a little rounded and very well defined, obliquely wrinkled: aperture nearly oval, with a white polished reflected margin, forming a groove behind the pillar: length half an inch; breadth about a third of its length.

Woods, and under stones. *v. v.*

51. Helix lubrica. *Varnished Snail-shell.*

Pennant, pl. 85. f. 4—*Da Costa*, pl. 5. f. 18—*Montagu*, pl. 22. f. 6—*Linn. Trans.* viii. pl. 5. f. 12—*Dorset Cat.* pl. 21. f. 18.

Shell

Shell dark horn-color, with often a yellowish or reddish tinge, smooth, finely polished, transparent: spires six, a little taper and rounded, ending somewhat obtusely: aperture oval, with a thick margin, not reflected nor forming any perforation: length about a quarter of an inch; breadth the third of its length.

We cannot agree with Mr. Dillwyn, that this shell and the H. subcylindrica are individually the same. In ditches or watery places we have never found them, nor, according to our own experiments, will they live longer in fresh water than other similar inhabitants of dry situations. Their favourite habitats are at the roots of trees which are generally carpeted with fine moss; under stones, where they retire for shelter in the autumn; but more especially in dry elevated pastures above the sea, where we have collected them in abundance after the hay has been carried off the fields, and whence they are washed down into the sands. When first gathered they are of a blackish horn-color, with a reddish gloss about the lip; but after much exposure to the weather, when dead, they become dull white and opake. *v. v.*

E. *Shell oval, without perforation,* 52 to 65.

52. Helix stagnalis. *Lake Snail-shell.* Fig. 69.

Lister, pl. 123. f. 21—*Pennant,* pl. 89. f. 1—*Da Costa,* pl. 5. f. 11—*Montagu,* pl. 16. f. 8—*Donovan,* pl. 51. f. 2—*Dorset Cat.* pl. 21. f. 11.

Shell very thin and brittle, transparent, horn-color, often covered with a rough greenish coat, and varying to whitish or dusky, tapering to a fine point: spires six or seven; the first very large and tumid, striate longitudinally, and crossed by a few faint distant transverse ribs, giving it a rather angular appearance, or as if pieces here and there had been lightly shorn off; the other volutions rounded but suddenly tapering: aperture very large, oval; the inner-lip folding and forming a kind of rib down the pillar on the inside: length nearly two inches; breadth about one.

Stagnant waters. *v. v.*

53. Helix fragilis. *Brittle Snail-shell.*

Montagu, pl. 16. f. 7.

Shell horn-color, extremely thin brittle and transparent, very much resembling the last, but is of a more regularly slender form in consequence of the larger volution not being so much larger in proportion to the others, and the line of separation runs more obliquely; the aperture is also smaller and more oblong; about a fourth less.

In the Kennet and Avon Canal, Wiltshire; and the Grand Canal, near Dublin. *v. v.*

54. Helix palustris. *Marsh Snail-shell.*

Pennant, pl. 89. f. 2. A. B.—*Montagu*, pl. 16. f. 10.—*Linn. Trans.* viii. pl. 5. f. 8—*Donovan*, pl. 175. f. 1, 2.—*Dorset Cat.* pl. 18. f. 18.

Shell brown horn-color, semitransparent, sometimes covered with a greyish or brown skin, oftentimes almost black with the inside glossy and dark chocolate brown: spires six, tapering to a fine point, rather rounded, wrinkled longitudinally, and often crossed with a few faint ridges: aperture oval, nearly half as long as the shell; the inner-lip a little reflected, so as to form a slight cavity behind it: length more than half an inch; breadth one third of its length.

Watery places: not common. *v. v.*

55. Helix fossaria. *Ditch Snail-shell.*

Montagu, pl. 16. f. 9—*Linn. Trans.* viii. pl. 5. f. 9—*Dorset Cat.* pl. 18. f. 17.

Shell horn-color, thin, brittle, transparent, very finely striate longitudinally, but rarely with any transverse lines; spires five or six, tapering to a fine point, much rounded and deeply divided: aperture oval; the inner-lip hardly reflected, and not forming a cavity behind it. Differs from the last, in not being above half the size, in the volutions being more tumid and deeply divided, and in the aperture being more regularly oval, without the reflexion of the inner-lip.

Wet and muddy places. *v. v.*

56. Helix detrita. *Three-banded Snail-shell.*

Lister, pl. 108. f. 1—*Montagu*, pl. 11. f. 1—*Dorset Cat.* pl. 19, f. 26.

Shell

Shell conic-oval, semitransparent, somewhat glossy, slightly wrinkled longitudinally: spires six, whitish, with sometimes a rufous spiral band round the middle of the larger volution, which continues round the edge of the other, but growing fainter and becoming indistinct in the fourth volution; sometimes there are three bands, the middle one narrower, with one or two on the second volution, the rest being covered over with the band, except at the junction; and in some the bands are broken into longitudinal streaks; but in British specimens all these markings are generally wanting: aperture oval; the inner-lip a little reflected over the pillar and forming a slight hollow behind it; length three quarters; breadth half an inch.

Weymouth and Dublin, in fresh water: rare. *v, v,*

57. Helix succinea. *Amber Snail-shell,*

Dorset Cat, pl. 18. f. 19.

Helix putris. *Montagu,* pl. 16. f. 4—*Donovan,* pl. 168. f. 1.

Shell extremely thin and brittle, transparent, glossy, oblong, pointed, amber-color or reddish-yellow: spires three, the first very large, oblong but not tumid, covering four fifths of the shell, and the next much larger than the terminal one which is rather obtuse: aperture wide oval, reaching down two-thirds of the shell, the inner-lip thickened and rounded, but not reflected nor forming the least perforation; the outer-lip extremely thin, often membranaceous and elastic: length about half an inch, and a quarter wide.

On aquatic plants. *v v.*

58. Helix putris. *Puddle Snail-shell.*

Lister, pl. 123. f. 23—*Pennant,* pl. 89. f. 3—*Da Costa,* pl. 5. f. 13—*Dorset Cat.* pl. 21. f. 13.

Helix peregra. *Montagu,* pl. 16. f. 3.

Shell thin, semitransparennt, oval, rather obtuse, longitudinally wrinkled, yellowish or horn-color, often covered with a dark-brown skin: spires four, rounded, the first very large and tumid aperture very large, oval, reaching down three-fourths of the shell; outer-lip thin; inner-lip thickened,

thickened, often with a kind of silvery coat, not the least reflected: length usually an inch; breadth five-eighths.

Variety, with the lip white and somewhat expanded. *Linn. Trans.* viii. pl. 5. f. 8*—*Dorset Cat.* pl. 19. f. 30.

Muddy places and ditches. *v. v.*

59. Helix auricularia. *Wide-mouthed Snail-shell.*

Lister, pl. 123. f. 22—*Pennant*, pl. 89. f. 4—*Da Costa*, pl. 5. f. 17—*Montagu*, pl. 16. f. 2—*Donovan*, pl. 51. f. 1—*Dorset Cat.* pl. 21. f. 17.

Shell thin, brittle, semitransparent, rather conic and obtuse, light yellow, often covered with a darkish or rust-color skin: spires four, the first extremely large and covering nearly the whole of the shell, a little wrinkled longitudinally, and often marked with a single deep impression: aperture somewhat oval, vastly large; the outer-lip much expanded; pillar-lip folded back and forming a slight hollow behind it: length about an inch; breadth three-quarters of an inch.

Stagnant waters. *v. v.*

60. Helix limosa. *Mud Snail-shell.*

Montagu, pl. 16. f. 1—*Brown, Wern. Soc.* pl. 24. f. 11.

Shell thin, transparent, glossy, reddish-brown or horn-color: spires four, the first very large. In appearance it so much resembles the last, as to be considered a mere variety, or the young shell: but it is of a more oblong and tapering form, the first volution not so much swelling over the next at the junction, the volutions all more prominent and rounded, and deeply defined by the line of separation, and the aperture is narrower.

Ditches, and muddy places. *v. v.*

61. Helix tentaculata. *Coverlid Snail-shell.*

Lister, pl. 132. f. 32—*Pennant*, pl. 89. f. 6—*Da Costa*, pl. 5. f. 12—*Donovan*, pl. 93—*Dorset Cat.* pl. 21. f. 12.

The young shell. *Walker*, f. 33.

Shell somewhat conic, rather obtuse, semitransparent, yellowish-white, often covered with a dark skin, nearly smooth: spires five or six, rounded and deeply divided, closed when alive with a strong concentrically striate lid:

aperture

aperture roundish oval; the outer-lip rather strong; inner-lip reflected and forming a slight groove behind it: length half an inch; breadth a quarter.

Ponds and stagnant waters. *v. v.*

62. Helix lutea. *Yellow Snail-shell.*

Montagu, pl. 16. f. 6.

Shell somewhat oval, semitransparent, strong, smooth, dull orange-yellow, obtuse at the point: spires three, the first very large: aperture oval, very wide; the outer-lip rather thick; inner-lip a little thickened, but not reflected or forming a hollow. It much resembles H. succinea, but is less, not so tumid, thicker and stronger, and an inhabitant of the ocean: length nearly half an inch; breadth almost a quarter.

Sea coasts of South Devon. *v. v.*

63. Helix glutinosa. *Glutinous Snail-shell.*

Montagu, pl. 16. f. 5.

Shell nearly orbicular, transparent, extremely thin and brittle, and finely glossed, smooth or very faintly wrinkled, often covered with a glutinous skin: spires three, the body-one vastly large, occupying almost the whole of the shell, so as nearly to conceal the rest when it is lying with its mouth upwards: aperture oval, extremely large, reaching almost to the very tip; the inner-lip not reflected nor forming any kind of cavity: length more than half an inch; breadth three eighths.

In quite still waters. *v. v.*

64. Helix lævigata. *Ventricose Snail-shell.*

Pennant, pl. 89. f. 8—*Donovan*, pl. 105—*Dorset Cat.* pl. 18. f. 9.

Shell nearly orbicular, very thin and brittle, transparent, very obtuse, faintly but regularly striate longitudinally, often covered with a brownish wrinkled skin, under which it is pale flesh-color: spires four, the first very large and wide, the others minute, obtuse, and placed nearly flat on the larger volution; inside light purplish-brown or whitish: aperture nearly orbicular, vastly extended; the margin thin, not reflected at the pillar nor forming a cavity: length half an inch or more; breadth something less.

Variety,

Variety, much stronger and thicker, of a deeper red colour, with the second volution much protruded and well rounded, without the longitudinal striæ, and a full inch in diameter.

Sandy coves of the southern and western coasts, and various parts of Ireland. *v. v.*

65. Helix Otis. *Ear-shaped Snail-shell.*

Walker, fig. 17.

Shell oblong, very convex, ear-shaped, semitransparent, pale horn-color or covered with a dark purplish-brown skin, smooth or very faintly wrinkled transversely, somewhat glossy: spires three, the first roundish-oblong, very large and covering nearly the whole shell, the others spirally turning on one side, like the crown of the Turbo pallidulus, well defined by the line of separation, but rather flat and obtuse; inside glossy, horn-color or purplish: aperture very large, extending over nearly the whole shell, roundish-oblong; outer-lip thin; pillar-lip a little thickened and flattish, but without any groove or cavity: length hardly a line; breadth somewhat less.

This minute and elegant species, for the first knowledge of which we are indebted to the Rev. Dr. Goodall, is found among the interstices of rocks which are covered at high water, on the Devonshire coast. It has something the contour of the Turbo pallidulus; but the primary volution is more convex, and the lateral ones not so closely pressed to the body; the aperture is of a more regularly oblong shape; the pillar-lip is not placed so transversely, and it has no groove nor perforation.

We have been informed that it was known to the late Mr. Montagu, who had intended to denominate it H. Auricula; but as this name approaches too near to auricularia, we have called it Otis. Walker's figure is a very good representation, who justly remarks, that it differs from the H. lævigata, in not being striate. *v. v.*

LEPAS.

Shell of several erect unequal valves, firmly attached to other substances.

A. *With*

A. *With the valves connected by a cartilage, and attached to a fleshy stalk.* Barnacle, 1 to 7.

B. *Firmly fixed, without stalk, conical, with an internal lid.* Acorn-shell, 8 to 20.

1. Lepas anatifera. *Duck Barnacle.*

Pennant, pl. 41, upper figures—*Da Costa*, pl. 17. f. 3—*Donovan*, pl. 7—*Wood*, pl. 11—*Dorset Cat.* pl. 2. f. 3.

Shell flattish, with five blueish valves connected by a yellow membrane; the two lower-ones large, somewhat triangular, slightly wrinkled longitudinally, and obscurely striate in a radiate manner from the lower angle on the anterior side; the two top ones not half the size, long and tapering down to a rather obtuse point, angular on each side towards the upper part, and longitudinally striate; the back-valve long, narrow, rounded on the back, tapering towards the ends, curved, striate longitudinally, and terminating towards the bottom in a kind of ridge: stalk long, transparent, horn-color, growing darker and more opake and wrinkled towards the shell, rarely red: length above an inch and a half; breadth an inch.

Variety A. The back valve appearing as if separated into several distinct joints.

Variety B. The back valve strongly ribbed longitudinally at the sides on the lower part, and the ribs closely tubercled.

Variety C. The back valve, with a longitudinal row of obtuse tubercular denticles.

Lister, pl. 439. f. 282, left hand figure.

Variety D. The back valve deeply and sharply serrated. *Fig.* 22.

Lepas dentata. *Wood*, p. 67—*Dillwyn*, p. 32.

These several varieties presented themselves to us among the vast mass which floated into the river Ex, in Devonshire, in the summer of 1817. And as the other parts of the shell and its appendages were in every respect similar to L. anatifera, we cannot consider any of them as entitled to specific distinction.

On drifted timber, and the bottoms of ships.

2. Lepas

2. Lepas anserifera. *Striated Barnacle.*

Lister, pl. 440. f. 283—*Donovan*, pl. 166. f. 2—*Wood*, pl. 10. f. 5.

Shell flat, of five valves, much resembling the former species; but is strongly striate in a radiate manner from the lower angle, and crossed by very fine lines; the angles and points of the valves are more sharp; and the back valve is flattened on the sides, and brought all the way down to a sharp keel-like edge: it is also smaller, and much more flattened on the upper part, giving the lower end a rather tumid appearance: stalk short, orange red.

Drifted timber, and the bottoms of ships. *v. v.*

3. Lepas sulcata. *Furrowed Barnacle.*

Montagu, pl. 1. f. 6—*Wood*, pl. 12. f. 1.

Shell flattish, dirty white or brownish, with five valves; the lower-ones with fifteen strong ribs radiating from the lower front angle, that which runs along the front larger than the rest and forming a margin; the two upper valves forming an oblique parallelogram, being pointed at both ends, like a card placed sideways, and furnished with seven or eight ribs besides intermediate smaller ones; the back valve flattish, strongly striate longitudinally, with a smooth and rather acute edge: stalk very short and dusky: length nearly a quarter of an inch; breadth nearly as much.

Found by Montagu, near Portland Island, on the Gorgonia flabelliformis; and by Mr. O'Kelly, near Kenmare harbour, in Ireland, on a piece of oak bark: we have also taken it on floating timber: very rare. *v. v.*

4. Lepas fascicularis. *Bladder Barnacle.*

Lister, pl. 439. f. 280. *Wood*, pl. 10. f. 4.

Lepas dilatata. *Donovan*, pl. 164.

Shell flat, extremely thin and membranaceous, transparent, of a light horn-color, exactly resembling thin scales of isinglass, strongly wrinkled in an undulate or somewhat angular manner: valves five, the two upper ones narrow and of a long triangular form, a little reflected or slightly hooked at the points; the two lower-ones obtusely triangular, with the margins at the base rounded and reflected; the front margin is also, in common with that of the upper-ones, reflected;

flected; back valve strongly carinate or ribbed longitudinally at the sides, and rather rounded in the middle, forming an obtuse angle towards the bottom, the outer point of which is produced and blunt, whence it becomes gradually dilated to the end, which extends to the termination of the other valves and is rounded and a little reflected, the upper end or point reaching a little more than half way up the shell: stalk very short, and almost entirely covered with the reflected ends of the lower valves: length three quarters of an inch; breadth more than half an inch.

Coast of Devonshire: very rare. *v. m.*

5. Lepas cornuta. *Horned Barnacle.*

Linn. Trans. xi. pl. 12. f. 1.

Shell oval, fleshy, very slightly compressed, rounded at top, with five small testaceous white valves; a linear-one on each side below the mouth or aperture, two small approximate linear curved ones above the mouth, and a very minute dorsal one: on the top are seated two large erect tubular projections, convex and mottled with brown in front, and channelled behind: stalk longer than the body, enlarging towards the base: color white, irregularly marked or clouded with three purplish-brown broken longitudinal stripes on each side, and which extend down a part of the stalk: length of the body three quarters of an inch; of the tubular processes, three eighths; of the stalk, an inch and a quarter.

From the bottom of a transport stranded on the Devon coast.

6. Lepas membranacea. *Membranous Barnacle.*

Linn. Trans. xi. pl. 12. f. 2.

Lepas vittata. *Wood*, pl. 12. f. 2, 3.

Shell somewhat oblong, gradually sloping into the stalk, obliquely truncate at top, fleshy, flattish, with five small white testaceous valves; the two upper ones linear, running rather obliquely; the two lower ones linear, with a strong hook-like process in the middle of each, projecting inwardly, and curving a little upwards to a point; the back valve linear, gibbous in the middle, extending at top to the termination of the upper-pair, where they meet and form a

projecting angle, and reaching below nearly to the commencement of the stalk, which is as long as the body: color pale blue, with three broad dark-blue stripes each side reaching all the way down: length of the body nearly an inch; breadth about half as much.

Variety. Of a dark horn-color, without stripes, not gradually sloping into the stalk, but terminating abruptly and somewhat angularly at the bottom: it is about half the size. When dry, these fleshy species become flat, wrinkled, horny, and transparent.

On the bottom of a transport stranded on the Devon coast. A cluster of the variety was dredged up at Exmouth, and is in the cabinet of Mrs. W. C. Loscombe. *v. m.*

6*. Lepas Scalpellum. *Penknife Barnacle.*

Montagu, pl. 1. f. 3—*Wood*, pl. 10. f. 3—*Donovan*, pl. 166. f. 1—*Dorset Cat.* pl. 2. f. 8.

Shell flat, thin, light brown, rather rough and wrinkled in some parts but without distinct striæ, and covered with short hairs, obliquely truncate at top: valves thirteen; the three next the stalk on each side small; the next two pair longer; the uppermost pair largest, placed a little obliquely, with the points slightly recurved; the back valve with transverse rows of short hairs, longer than the rest, flat, diverging into a sharp beak half way up, and thence turning back to cover the edge of the two upper valves: stalk rather large, light brown, annulate and hairy: length five eighths of an inch; breadth three eighths.

Sandwich, and Exmouth, on Gorgonia: rare. *v. m.*

7. Lepas pollicipes. *Cornucopia Barnacle.*

Lister, pl. 439. f. 281—*Montagu*, pl. 28. f. 5—*Wood*, pl. 10. f. 2.

Shell smooth, glossy, with numerous valves; those at the base very small, mostly of a triangular form, to the amount of twenty or more; the primary ones are five, the larger pair of which are rather concave, conic at the upper part, with an obtuse and quite straight summit; the front pair oval, very convex and rounded; the back valve rather oval, thick, convex, and rounded: stalk about double the length of the shell, rather compressed, clothed with a vast number

umber of small grey-brown glossy scales placed in an imricate manner, and concealing the skin: length nearly hree quarters of an inch; breadth about half an inch.
Drifted wood: very rare. *v. v.*

B. *Fixed without stalk, conical, and furnished with an internal lid.* Acorn-shell. 8, to 20.

8. Lepas Diadema. *Turban Acorn-shell.*

Lister, pl. 445. f. 288—*Da Costa*, pl. 17. f. 2—*Donovan*, pl. 56. f. 1, 2—*Wood*, pl. 4.

Shell roundish, hemispherical, a little compressed, with ix valves, which with the intermediate spaces form twelve riangular compartments; the six raised ones with about our strong rounded wrinkled longitudinal ribs, with their ointed ends at the top of the shell; the other six are unken and finely striate transversely, with their points at he bottom of the shell: color dirty white or grey, rather olished: the mouth or aperture funnel-shaped and six-ided: the base concave, divided into eighteen striate partitions, projecting a little within the opening of the shell, nd finely toothed: lid membranaceous, ending in two alves: diameter at the base about two inches, and half as uch in height.
On the back of whales: rare. *v. m.*

9. Lepas Tintinnabulum. *Bell Acorn-shell.* Fig. 31.

Lister, pl. 443. f. 285—*Donovan*, pl. 148—*Dorset Cat.* l. 1. f. 5.—*Wood*, pl. 6. f. 1, 2.

Shell more or less conic, a little angular, divided into welve triangular compartments; the raised ones finely triate longitudinally, and the sunken ones transversely: id of four valves, two of them large, strongly striate transersely, a longitudinal furrow dividing them from each ther: color dull white, often with a mixture of purple: ength nearly two inches; diameter of the base hardly ne.
On the bottoms of ships; and in Dublin bay it has been ound affixed to the Ostrea operculàris, from which circumtance it is clearly identified as a British production. *v. v.*

10. Lepas Scotica. *Scotch Acorn-shell.*

Wood, pl. 6. f. 3.

Shell with six raised unequal triangular valves, ribbed longitudinally and striate transversely at the base: color dirty white, with a greenish tinge: lid like that of the last: hardly an inch long, and half as much broad.

Scotland, on the Mytilus Modiolus: rare.

11. Lepas rugosa. *Wrinkled Acorn-shell.*

Linn. Trans. viii. pl. 1. f. 5—*Dorset Cat.* pl. 2. f. 10—*Wood,* pl. 6. f. 4.

Lepas borealis. *Donovan,* pl. 160.

Shell somewhat rhombic, with six triangular valves, the hinder ones broader than the rest, smooth or ribbed and wrinkled longitudinally, with strong longitudinal grooves within, of a whitish or pale purple color: aperture large, oval, often nearly as wide as the base, and a little angular, the upper part of the inside ribbed transversely: lid of four rough valves, not striated, angular, and terminating in four distinct sharp points which are a little reflected: length above half an inch; breadth a quarter.

In Dublin bay they are found fixed to the Ostrea opercularis, often ribbed across in an oblique or undulate manner, as if they had taken by reflexion the markings of the shells on which they grew: the sunken triangles are also finely striate transversely, and crossed by a few longitudinal ribs. *v. v.*

12. Lepas Alcyonii. *Sea-mat Acorn-shell.*

Shell somewhat conic; white or brownish white, with six valves of very unequal and irregular size, terminating in rather sharp points: aperture large, oval or roundish: lid of four valves, the two uppermost smooth, pointed, gaping a little at top, and protruding in the middle into a kind of keel: diameter and height about the eighth of an inch.

For the discovery of this species we are indebted to Dr. Leach, as we are informed. On the Devonshire coast it is dredged up, attached to the Alcyonium and Flustra; *v. v.*

13. Lepas

13. Lepas conoides. *Conic Acorn-shell.*

Donovan, pl. 30. f. 3—*Dorset Cat.* pl. 2. f. 9.

Shell conic, with the aperture very narrow, of six unequal valves, surrounded with numerous nearly equidistant thin raised striæ from the bottom to the top; the tip of the valves rather flat and rounded: aperture narrow; the lid of four valves: color purplish-white: diameter not half an inch.

Western coasts, on shells and stones. *v. v.*

14. Lepas Balanus. *Common Acorn-shell.*

Lister, pl. 443. f. 286—*Pennant*, pl. 40. f. 1—*Donovan*, pl. 30. f. 1—*Wood*, pl. 7. f. 3—*Dorset Cat.* pl. 2. f. 12.

Shell of six raised valves, rugged at their edges, more or less ribbed longitudinally, spreading at the base, of a greyish-brown or purplish color; the depressed triangles striate or rugged transversely: aperture moderately large: lid of four valves, all of them striate transversely; the shorter or front pair often smooth at the top, and serrate or tubercled by the striæ down the outer margin; the back pair longer, curving over the others, with a longitudinal groove down the middle of each: length nearly an inch; breadth at the base about half as much.

Rocks, piles, and other substances. *v. v.*

15. Lepas balanoides. *Smooth Acorn-shell.*

Lister, pl. 444. f. 287—*Pennant*, pl. 40. f. 2—*Donovan*, pl. 36. f. 2—*Da Costa*, pl. 17. f. 7—*Wood*, pl. 7. f. 1—*Dorset Cat.* pl. 2. f. 7.

Shell white, smooth, often deeply grooved at the base: valves six, mostly directed one way and ending in a beak, divided by a longitudinal furrow: lid of four valves; the two upper ones slightly striate transversely; the others quite smooth: about half the size of the former, and often much spread at the base.

Rocks, and other substances. *v. v.*

16. Lepas elongata. *Club-shaped Acorn-shell.*

Pennant, pl. 40. f. 4—*Donovan*, pl. 36. f. 3—*Dorset Cat.* pl. 1. f. 6.

Lepas clavata. *Wood*, pl. 7. f. 2.

Shell tubular, elongated, slender at the base and growing thicker towards the top but a little contracted at the aperture, striate longitudinally, rough and sometimes tubercled: valves six, three wide and three narrow, wrinkled longitudinally and faintly striate transversely: aperture wide and gaping; lid obtuse, of four valves, obliquely striate: color white, with more or less of a greenish cast: length from one to two inches; diameter at the base not a quarter of an inch.

Weymouth, Tenby, and the West of Ireland: rare. *v. v.*

17. Lepas punctata. *Punctured Acorn-shell.*

Montagu, pl. 1. f. 5—*Dorset Cat.* pl. 1. f. 10.

Lepas cornubiensis. *Pennant*, pl. 40. f. 3.

Shell very rugged, dull brown, with obtuse longitudinal and somewhat undulate ribs, a little spread at the base, generally covered with minute black punctures: lid of four valves, mostly punctured all over; the upper-ones with a few longitudinal ridges, and near the top on the outer edge of each is a deep notch or groove, giving them a cruciate appearance: length about a quarter of an inch; breadth more than half as much.

Lepas convexula. *Pennant*, pl. 38, middle fig. The young shell.

We have examined this shell in all its stages of growth, and perceive that in its very young state it exactly answers to the description given by Mr. Pennant. *v. v.*

18. Lepas costata. *Ribbed Acorn-shell.*

Donovan, pl. 30. f. 2. Balanus.

Shell white, somewhat conic, nearly closed at the top and rather spreading at the base, with numerous nearly equidistant strong rounded ribs radiating from the top to the base; diameter about half an inch.

Western coasts of England, Wales, and Ireland: on shells. *v. v.*

19. Lepas spongiosa. *Sponge Acorn-shell.*

Montagu, pl. 17. f. 4, 5, 6.

Shell oval, with six angular wrinkled valves, covered with small spines, the summits of the valves much raised and

and pointed; the three anterior ones broader and shorter; the base flat, concentrically wrinkled, seated in a kind of obconic hollow cup much resembling the Patella Mitrula reversed, to which the shell is connected by a ligament, but with which it has no internal communication: lid of four valves; the front pair rough with decussate striæ; the hinder pair longer, and a little hooked forwards: color livid brown, purplish towards the pointed ends: length half an inch; diameter rather less.

Devon and Dorset coasts, so imbedded in a blackish reticulate kind of sponge, that only the points of the valves are exposed, and in which they may be detected, by running the fingers over the sponge and feeling the prickly points: rare. *v. v.*

20. Lepas Verruca. *Wart-shaped Acorn-shell.*

Lepas Verruca. *Wood*, pl. 9. f. 5—*Walker*, f. 87.

Lepas intertexta. *Pennant*, pl. 41, lower figures.

Balanus intertextus. *Donovan*, pl. 36. f. 1—*Dorset Cat.* pl. 1. f. 9.

Shell white or brown, flat or compressed, with four valves; two of them larger, interlacing with each other like the fingers of the hands when pectinated, and strongly ribbed in a direction obliquely to each other; two of them very minute: aperture oblique, closed by the lid, which has two very obscure valves; the base irregularly serrate at the margin: length at the base hardly a quarter of an inch.

On shells and stones, and in the roots of Fuci. *v. v.*

21. Lepas radiata. *Radiated Acorn-shell.*

Wood, pl. 7. f. 7.

Shell thick, smooth, marked with longitudinal violet rays: valves six, triangular, with the rays close together at the points, but more open at the base; the intermediate spaces highly polished, and very finely striate transversely: length a quarter of an inch; breadth at the base five eighths.

Found by Mr. Sowerby fixed to the bottom of a ship.

MACTRA.

Shell with two equal valves, unequal at the sides: hinge with the middle tooth complicated or angular.

angular, and a small cavity each side; the lateral teeth remote, and locking into the opposite valves.

1. Mactra dealbata. *Pellucid Mactra.*

Montagu, pl. 5. f. 1—*Linn. Trans.* viii. pl. 1. f. 10—*Dorset Cat.* pl. 7. f. 7.

Shell oval, thin, brittle, transparent, white, very finely striate transversely, with a few coarser wrinkles, gaping and very slightly produced at the smaller end, but well rounded at both; within glossy-white, a little concave, with a plain sharp margin: beaks a little oblique, not quite central; the middle tooth in one valve broad, forked, angular close to the beak: length an inch and a half; breadth nearly two.

At the mouths of rivers: rare. *v. m.*

2. Mactra glauca. *Glaucous Mactra.*

Donovan, pl. 125.

Shell oval, dirty white, thin, semitransparent, finely striate transversely and wrinkled at the anterior end, marked with broad and narrow longitudinal glaucous rays: beaks reflecting backwards, with a narrow gape between them: length nearly two inches and a half; breadth three and a half.

Found by Miss Pocock, in Cornwall: very rare.

3. Mactra radiata. *Radiated Mactra.*

Donovan, pl. 161.

Cardium edentulum. *Montagu, Suppl.* p. 29.

Shell thin, brittle, somewhat triangular and produced at one end, ash-color, paler and with a light flesh-color tinge beneath the skin, very faintly and obscurely striate longitudinally, with a few broad faint distant transverse wrinkles, and marked with numerous equidistant narrow pale testaceous longitudinal rays; inside smooth, white, with a plain margin, the outer striæ being visible in the thin part: beaks pointed, nearly central; turning a little to one side; primary teeth none, but immediately under the beaks is a small depression, with the rudiment of a small denticle, and a little remote on each side is a small laminar tooth: length two inches and a half; breadth three inches.

Found by Captain Laskey, at Portsmouth: very rare.

4. Mactra

4. Mactra Stultorum. *Simpleton's Mactra.*

Lister, pl. 251. f. 85—*Pennant*, pl. 52. f. 1—*Da Costa*, pl. 12. f. 3—*Donovan*, pl. 106—*Dorset Cat.* pl. 8. f. 3.

Shell somewhat triangular, very thin, brittle, and semi-transparent; covered with a thin skin, very convex, faintly striate transversely, grey or pale rufous brown, more or less distinctly radiate longitudinally with broader and narrower whitish stripes; the posterior slope produced in the middle into an acute keel-like ridge: beaks central, large, prominent, frequently of a purplish hue; the lateral teeth of one valve double: length an inch and a half; breadth an inch and three quarters.

Variety. Of a greyish color, more or less tinged with purple both inside and out, rather wider in proportion to its length, without the longitudinal rays, but very roughly wrinkled and brown on the anterior slope, not so large, and of a more glossy appearance.

Mactra cinerea. *Montagu, Suppl.* p. 35.

On most sandy shores: the variety very common in the north of Devon. *v. v.*

5. Mactra solida. *Solid Mactra.*

Pennant, pl. 55. f. 2—*Da Costa*, pl. 15. f. 1—*Donovan*, pl. 61—*Dorset Cat.* pl. 12. f. 1.

Shell strong and solid, opake, convex, roundish, equal at the sides, nearly smooth, with a few antiquated transverse ridges; yellowish-white, with often yellowish or blueish transverse bands; within glossy white: beaks central; primary teeth small; lateral-teeth strong, striate within, in one valve a deep groove behind the lateral ones, but not distinctly double as in the last: length an inch and a half; breadth two inches.

Sandy and gravelly shores. *v. v.*

6. Mactra truncata. *Wedge-shaped Mactra.*

Lister, pl. 253. f. 87—*Da Costa*, pl. 14. f. 6—*Dorset Cat.* pl. 6. f. 6.

Mactra subtruncata. *Donovan*, pl. 126.

Shell strong, thick, opake, very convex, triangular, nearly smooth, but mostly marked with a few faint distant transverse

transverse furrows, yellowish-white: beaks large, prominent, quite central; the sides equal, much flattened and truncate, and the front margin rounded: beaks very prominent and strong, quite central; teeth as in the last: length an inch and a half; breadth a little more.

It is difficult to appropriate accurately the figures to this species and the last: so difficult that Mr. Dillwyn has referred to Da Costa's figure of M. solida for M. truncata, and to the copy of the same figure in the Dorset Catalogue for M. solida.

Northern and western coasts, and Dublin bay. *v. v.*

7. Mactra subtruncata. *Oval Mactra.*

Pennant, pl. 55. f. 1—*Montagu*, pl. 27. f. 1—*Linn. Trans.* viii. pl. 1. f. 11—*Dorset Cat.* pl. 5. f. 10—*Lister*, pl. 252. f. 86?

Shell convex, thin, semitransparent, yellowish horn-color covered with a pale brown skin, rather glossy, very rough and brown at the anterior side, a little truncate both sides, one of which is rounded, the other elongated and rather angular at the end, the edges of both of them prominent and much turned inwards, particularly on the shorter side where a heart-shaped depression is formed, faintly but regularly striate transversely, and more strongly so towards the rounded end: beaks not central, pointed and very prominent; inside glossy, white or with a yellowish cast; lateral teeth large and prominent, double in one valve, the double ones strongly striate internally only, the single ones striate on both sides: length three quarters of an inch; breadth an inch.

Variety. Stronger, opake, more convex, of a more triangular shape, and not so much produced at one end, regularly and strongly striate transversely.

Western coasts, Dublin bay, and North Britain. *v. v.*

8. Mactra triangularis. *Triangular Mactra.*

Montagu, pl. 3. f. 5.

Shell strong, smooth, somewhat triangular, a little produced on one side, opake, white; within white, but not much glossed, and strongly notched at the margin: beaks prominent; the primary tooth in one valve large and cloven; in the other valve two small teeth, with a triangular cavity between

between them; the lateral ones depressed: length two lines; breadth three.

The internal toothed margin distinguishes this species from all its tribe.

Devonshire coast: very rare. *v. m.*

9. Mactra Listeri. *Lister's Mactra.*

Lister, pl. 253. f. 88—*Da Costa*, pl. 13. f. 1—*Dorset Cat.* pl. 7. f. 1.

Tellina plana. *Donovan*, pl. 64. f. 1.

Shell oval-oblong, slightly triangular, thin, flat, semi-transparent, not polished, finely wrinkled transversely, somewhat sloping to the cartilage edge where it gapes a little: color pale russet-brown, sometimes dirty white, blueish, or inclining to black, often marked with transverse bands; inside smooth, white, glossy, with a plain margin: beaks small, central; hinge with a large triangular cavity; the primary teeth small, a single one in one valve locking into a cloven one in the other; lateral teeth none: length about an inch and a half; breadth nearly two inches.

Whether the M. Listeri and M. piperata of Gmelin be individually the same, as Mr. Dillwyn supposes, we are unable to determine; but have chosen to retain the former denomination, as being so well known and so unexceptionably appropriate, in preference to the uncouth name adopted by Mr. Dillwyn from M. Poiret, whose Travels he has quoted, but not admitted into his catalogue of authors.

At the mouths of rivers. *v. v.*

10. Mactra minutissima. *Minute Mactra.*

Montagu, Suppl. p. 37.

Shell white, nearly smooth, somewhat triangular, smooth within with a plain margin: beaks prominent, strong; hinge with two primary teeth in one valve, separated by a cavity for the reception of a single tooth in the other.

Except for its triangular outline this species has a close alliance to the genus Tellina. It differs from M. triangularis, in its size, which is little more than a line long and two broad, in the teeth, and in the want of the notched margin.

Devon-coast, and Dublin bay. *v. v.*

11. Mactra

11. Mactra tenuis. *Thin Mactra.*

Montagu, pl. 17. f. 7.

Shell thin, flattish, somewhat triangular, semitransparent, white, transversely wrinkled: beaks small, central, straight; in one valve a forked tooth and a narrow cavity, with a single remote lateral one on each side; in the other a plain tooth and corresponding cavity, but no lateral ones: length a quarter of an inch; breadth rather more.

It resembles the young of M. Listeri; but is distinguished by the lateral laminar teeth in one of its valves.

Western coast: rare. *v. v.*

12. Mactra Boysii. *Boyse's Mactra.*

Montagu, pl. 3. f. 7—*Linn. Trans.* viii. pl. 1. f. 12—*Dorset Cat.* pl. 12. f. 7.

Mactra alba. *Linn. Trans.* vi. pl. 18. f. 9 to 12.

Shell oval, rounded at both ends, thin, rather flat, transparent, glossy white, nearly smooth or with a few distant transverse striæ; inside smooth, glossy white, with a plain margin: beaks small, a little turned at the points, placed nearer to the smaller end: hinge with a single small tooth in each valve, and a broad cavity; and broad lateral teeth in one valve only: length more than half an inch; breadth three quarters.

A very good figure of this shell is given in the plates which accompany Maton and Rackett's descriptive catalogue; but as they have omitted to refer to it, Mr. Dillwyn has also neglected it.

Western coasts, and Dublin bay. *v. v.*

13. Mactra Lutraria. *Otter's Mactra.*

Lister, pl. 415. f. 259—*Pennant*, pl. 55. f. 3—*Linn. Trans.* vi. pl. 16. f. 3, 4—*Donovan*, pl. 58—*Dorset Cat.* pl. 5. f. 11.

Shell oblong, thin, brittle, semitransparent, gaping and nearly equally rounded at both ends, whitish with a reddish tinge towards the beaks, covered with a thin glossy greenish or dusky wrinkled skin which often extends beyond the margin, faintly and irregularly wrinkled transversely: beaks pointed, incurved, nearer one end, without slope or groove along the anterior edge; inside glossy white, with the

the front margin thin and plain, the upper edges on each side the hinge thick and flattened, and gradually curving on both sides: hinge with a spoon-shaped cavity in one valve, and a thin oblique tooth each side; in the other a similar cavity, with a triangular tooth on one side, and a thin oblique one on the other, without lateral ones: in young shells are two prominent sharp transverse teeth in one valve, receiving the triangular tooth of the other between them: length two inches and a half; breadth four and a half.

Variety. Of a more oblong shape, being three times as wide as it is long, with the margins forming nearly a straight line, and about half the size. The specimen under our examination was dredged up at Cove, near Cork, and in the teeth and general appearance exactly resembles a more produced variety of this species.

At the mouths of rivers. *v. v.*

14. Mactra hyans. *Oblong Mactra.* Fig. 41.

Da Costa, pl. 17. f. 4—*Donovan*, pl. 140—*Dorset Cat.* pl. 2. f. 4—*Linn. Trans.* vi. pl. 16. f. 5, 6.

Shell oblong-oval, thick, strong, nearly opake, rounded and somewhat gaping at the larger end; the anterior side elongated, a little contracting and curving in a somewhat scymetar-shaped form, the end considerably gaping, with a slight angular tendency: color dull white, with a reddish yellow tinge towards the hinge: beaks near one end, pointed and incurved, from which there is a considerable slope or indenture towards the smaller end, and a strong groove which runs along the margin on the outside; from the beaks is also a depressed line on the outside extending to the lower end of the front margin; inside dull white, with a ferruginous patch under the hinge on the broader side, the margin plain and thin: hinge with a spoon-shaped cavity and two plain laminar teeth behind it in one valve; in the other two teeth behind the cavity, one of which is thick and cloven, the other thin and plain; lateral teeth none: length, of the specimen before us, two inches and three quarters; breadth five inches and a half.

This elegant shell is readily distinguished from M. Lutraria, by its elongated and rather scymetar-shaped form;

by the curvature and groove along the upper and anterior margin; by the diagonal depressed line from the hinge to the anterior front margin; by its coarse and thick texture; and by the teeth.

Da Costa's figure, from which that in the Dorset Catalogue is copied and most descriptions drawn, is a very incorrect one; and his text and all his references apply only to M. Lutraria. Mr. Dillwyn, in his careless manner, gives the length as about two inches, and the breadth rather more than half as much.

At the mouths of rivers: very rare. *v. m.*

MUREX. *ROCK-SHELL.*

Shell with a single valve, spiral, often rough with membranaceous folds or protuberances: aperture oval, ending in a straight entire canal, which is sometimes a little reflected.

1. Murex Carica. *Date Rock-shell.* Fig. 26.

Lister, pl. 880. f. 3. b.

Shell pyramidal, coarse, thick, dull reddish-grey with a few chocolate-brown longitudinal marks near the inner-lip, irregularly striate and somewhat scaly lengthways; about the canal are a few transverse striæ, on which there is a broad raised rounded protuberance running a little obliquely: spires six, hardly raised, with a row of seven or eight pointed protuberances round the top of the two first volutions, which on the body-one are concave and triangular, and about half an inch long; these, however, become gradually closed and smaller, decreasing at length into raised tubercles which become indistinct towards the point; the lesser volutions are finely striate circularly: aperture triangular, large, extending to four-fifths of the shell, and reaching to the second row of protuberances: inside white, polished; the outer-lip broad and thin, with a few faint striæ near the smaller end, which give the margin a slightly toothed appearance; near the larger end the margin protrudes into an angular hollow, in consequence of its junction with one of the concave protuberances: pillar

lar polished, with a keel-like ridge along the canal, and rugged on the outside: length six inches; breadth, including the protuberances, four inches.

We had frequently heard it remarked, that the fishermen of the northern coasts of Ireland occasionally saw, what they called the great rock-shell, in calm weather, and deep in the water. Our attention was naturally awakened by this relation, not however being able to ascertain what degree of credit was due to it. At length we were favoured with a pair of these magnificent shells, which were thrown up on the sands at Warren's-point, after a severe thunder storm. They were at the time covered with the Lepas Balanus, Serpula triquetra, and Cellepora spinosa; and in one of them were found the putrid remains of the animal inhabitant.

It may also be observed, that no foreign vessels touch on that coast, that no collector of shells lives in that part of Ireland, and that the person who found them and presented them to us knew not one shell from another, and wondered at our exact examination into their history. *v. m.*

2. Murex Erinaceus. *Hedge-hog Rock-shell.*

Pennant, pl. 79. f. 1—*Da Costa*, pl. 8. f. 7—*Donovan*, pl. 35—*Dorset Cat.* pl. 14. f. 7.

Shell strong, rough, angular, brown or whitish: spires seven or eight, abruptly sloping at the junctions, ending in a fine point; the primary volution with numerous raised transverse lines; the rest with generally two strong raised warty circular ribs; all of them mostly clothed with small concave arched scales placed in an imbricate manner, and furnished with about seven strong longitudinal ribs: aperture oval, ending in a short closed tubular canal which is reflected; outer-lip thick, toothed within; pillar-lip smooth, glossy-white: length nearly two inches; breadth about one.

Old shells have the outer-lip very thick, flat and angular: young shells have the canal open, with the outer-lip thin and striate transversely on the inside, often marked with transverse brown bands: they may be distinguished from the young of Buccinum Lapillus, by the longitudinal ribs, and the abrupt sloping of the volutions to the line of

junction. A variety is sometimes found with ferruginous marks or zones.

On most rocky shores. *v. v.*

3. Murex carinatus. *Carinated Rock-shell.*

Pennant, pl. 80, and frontispiece to vol. iv.—*Donovan*, pl. 109—*Laskey, Wern. Soc.* i. pl. 8. f. 9.

Shell strong, oval, dull yellowish white: spires seven, the first very much inflated and covering more than half the shell, faintly striate transversely, with a few irregular longitudinal lines, giving them an imperfectly reticulate appearance; the upper part of each rather suddenly sloping to the next, causing them to be very distinctly defined by the line of separation; the four first with two distinct elevated ridges winding round the middle, and which gradually disappear in the smaller volutions: aperture wide oval, ending in a slightly reflected open canal; inside pale yellowish-white; the outer-lip very thin and slightly notched by the striæ on the back; inner-lip smooth, folding back on the body volution, rugged on the outside: length nearly three inches; breadth one and a half.

The description was taken from a fine specimen, in the cabinet of Mr. O'Kelly of Dublin, who found it at Portmarnock, in Dublin bay. *v. m.*

4. Murex subantiquatus. *Lesser smooth Rock-shell.*

Murex antiquus. *Donovan*, pl. 119.

Shell oblong, pale brown, coarse, rugged and somewhat angular: spires eight, strongly striate transversely, and faintly in a longitudinal direction, with one or two strong undulate or slightly tubercled transverse ridges, which disappear on the terminal volutions: aperture oval; the outer-lip dilated; pillar-lip a little reflected; inside livid white; the canal elongated: length nearly four inches; breadth about two.

In Scotland; very rare.

5. Murex antiquus. *Greater smooth Rock-shell.*

Lister, pl. 913. f. 4—*Da Costa*, pl. 6. f. 4—*Pennant*, pl. 81—*Dorset Cat.* pl. 17. f. 4.

Murex

Murex despectus. *Donovan*, pl. 31.

Shell strong, thick, semitransparent, yellowish-white, finely striate transversely, and very faintly so in a longitudinal direction: spires seven or eight, much rounded and swelling: aperture oval, dilated; the outer lip thin, often slightly notched by the outward striæ; pillar rugged, and a little twisted at the base; canal reflected, open; inside yellowish-white: length sometimes six inches, and three broad.

Variety. With the volutions reversed.

Lister, pl. 950. f. 44. b, and c.

Lister marks this variety as English, observing that it was found on the sea shore at Harwich, by Dr. Dale.

The young shell, with the small end very abrupt and rounded.

Murex decollatus. *Pennant*, pl. 82. f. 3.

A singular variety is in our cabinet, in which the volutions are divided down to the very pillar by the line of separation, as in the Turbo Clathrus: and at the junction between the first and second volutions, commencing from the outer angle of the aperture, are three or four thin raised longitudinal partitions, crossing the line of separation, and forming distinct cells.

In another variety the shell is strongly reticulated, of a more taper shape, and furnished with six or seven much raised and rounded longitudinal ribs, giving it a somewhat angular appearance: probably the M. fornicatus of Gmelin. *v. v.*

6. Murex corneus. *Horny Rock-shell.*

Lister, pl. 913. f. 5—*Pennant*, pl. 79. f. 2—*Da Costa*, pl. 6. f. 5—*Dorset Cat.* pl. 17. f. 5—*Donovan*, pl. 38.

Shell strong, elegantly taper, semitransparent, white, mostly covered with a brown skin: spires eight or nine, flat and hardly raised, separated by a fine line; finely and regularly striate in a spiral direction, with a few obscure longitudinal wrinkles on the body volution, and ending in a fine point: aperture oblong-oval, terminating in a long reflected canal, which together occupy about half the shell; outer lip thin; inner lip spread on the pillar: length nearly three inches; breadth one and a quarter.

The young are very obtuse at the point, as if broken off; and are known from the young of M. antiquus, by the elongated beak, and the more regular transverse striæ.

On most sandy shores. *v. v.*

7. Murex gracilis. *Slender Rock-shell.*

Montagu, pl. 15. f. 5.

Murex sinuosus. *Montagu*, pl. 9. f. 8—*Dorset Cat.* pl. 14. f. 18.

Murex emarginatus. *Donovan*, pl. 169. f. 2.

Shell slender, tapering to a fine point, with ten well defined spires, ribbed longitudinally, and finely but regularly striate transversely: on the body volution are fifteen ribs, tumid in the middle and placed a little obliquely, not continuing through the whole length of the shell, but interrupted at the junctures by a flat space which commences at the upper angle of the outer-lip and running spirally up the whole shell; this flat space is broader or narrower, but always sufficiently distinct, and marked with fine thread-like lines following its direction round the volutions: aperture oblong-oval, narrow, and with its canal occupying about half the length of the shell; at the upper angle of the outer-lip is a cut or sinuosity, which separates it from its attachment to the body volution; outer-lip a little spreading, thickened by a rib at the back, with a thin edge, slightly crenate or denticulate within; pillar-lip smooth, white, but not polished: color yellowish-white, sometimes a little glossy, with a tinge of pink, and a pale red band commencing half-way up the outer-lip and spirally winding round the base of each volution, forming two upon the larger one, but growing indistinct, and at last disappearing near the tip: length more than an inch; breadth about a quarter of an inch.

This description drawn from many specimens now before us, and which were collected in Dublin bay and the south of Devon, seem to combine together the characters both of M. gracilis and M. sinuatus, as described by Montagu. All that we possess, and all that we have seen, have both the sinuosity and the flat striated space between the volutions, although in some the latter is very narrow: the ribs on the body volution are from six or eight to fifteen or more, and the

the volutions from six to ten; when the spires are few the shell has a more conical appearance, and the aperture is often a little dilated or more rounded, and the canal shorter and more or less truncate at the end; and when the outer-lip has the back rib close to the edge, it is thicker, and the internal crenatures are not visible.

The gradations of these varieties are so clear and apparent, that at present we have no doubt of their being the same species. In his description of M. gracilis, Montagu has not noticed the notch on the lip; but in his Supplement, at p. 114, he has particularly pointed out this mark as its essential distinction from M. accinctus. *v. v.*

8. Murex accinctus. *Girdled Rock-shell.*

Laskey, Wern. Soc. i. pl. 8. f. 14.

Shell taper, with six or seven ribbed volutions; the ribs slightly angulated or elevated in the middle of each volution, and crossed by fine spiral thread-like lines: color yellowish-white, with an obsolete brown band on the middle of the larger volution, which continues up the shell at the base of the smaller ones; this band, by the help of a glass, is observed to be formed of four or five contiguous thread-like lines of that color: aperture oblong, with a short canal, the outer-angle of which is entire.

Montagu observes that it differs from M. gracilis in the aperture and the canal, and in wanting the notch at the upper angle of the outer-lip: it however so exactly corresponds with the smaller species of that shell, where the aperture is proportionately wider, the canal shorter, and the notch hardly formed or not very visible, that there is much doubt of its being specifically distinct: length four lines; breadth one.

In the Firth of Forth, where only one specimen seems to have been taken, by Captain Laskey.

9. Murex attenuatus. *Taper Rock-shell.*

Montagu, pl. 9. f. 6.

Shell slender, tapering to a very fine point, yellowish-white: spires eight, with nine equidistant strong ribs, which are rather undulated, but not striate across; the volutions hardly raised, and separated by a very fine line only: aperture

aperture narrow-oblong, contracting a little at the canal, which is moderately long and nearly straight; outer-lip thickened by a rib at the back; inner-lip plain: length half an inch; breadth an eighth or more.

Western coasts, and Dublin bay. *v. m.*

10. Murex Nebula. *Gauze Rock-shell.*

Montagu, pl. 15. f. 6—*Pennant*, pl. 82. f. 7—*Dorset Cat.* pl. 14. f. 16.

Shell slender, tapering to a fine point: spires eight or nine, scarcely raised, and separated by a very fine line, with eight or nine longitudinal ribs, and crossed transversely in the interstices by very fine faint lines: color yellowish-white or brownish, sometimes pale rose-color, with the transverse striæ white: aperture oval-oblong, narrow; outer-lip thin and plain; inner-lip a little rugged on the outside; canal rather short, turning a little to one side: length half an inch; breadth two tenths.

On many fine sandy shores. *v. v.*

11. Murex septangularis. *Septangular Rock-shell.*

Montagu, pl. 9. f. 5—*Donovan*, pl. 179. f. 4.

Shell strong, taper, pale brown, rather glossy: spires seven or eight, with seven longitudinal ribs which are scarcely interrupted by the line of separation, the spaces between the ribs smooth and but slightly concave, giving the shell a septangular appearance; outer-lip thin, contracted to an angle at the upper part, where the margin is a little indented; pillar-lip a little folded back: length half an inch, or rather more; breadth a quarter.

Western coasts, and Dublin bay: rare. *v. m.*

12. Murex costatus. *Ribbed Rock-shell.*

Pennant, pl. 82. f. 2—*Da Costa*, pl. 8. f. 4—*Donovan*, pl. 91—*Dorset Cat.* pl. 14. f. 4.

Shell oblong, taper, rather glossy: spires six, flat and divided by the line of separation only, with seven or eight elevated ribs, placed rather remotely, and not striate transversely: color chocolate-brown, with often white bands, or entirely white at the base; sometimes yellowish-white with a dark brown band or two: aperture very narrow, not much

much contracted at the canal, which is short; the outer-lip thickened by a rib, with the margin thin: length about a quarter of an inch; breadth hardly an eighth.

Western coasts, and Dublin bay, on Fuci. *v. v.*

13. Murex proximus. *Proximate Rock-shell.*

Montagu, pl. 30. f. 8.

Shell thick, white, moderately pointed: spires six, rather abrupt at the tops, rounded and well defined, with about eleven strong ribs, not striate transversely: aperture oval-oblong; the canal short and rather spreading at the end; outer-lip extremely broad and reflected: length nearly half an inch.

Near Dunbar: very rare.

14. Murex Turricula. *Turret Rock-shell.*

Montagu, pl. 9. f. 1—*Dorset Cat.* pl. 14. f. 15.

Murex angulatus. *Donovan*, pl. 156.

Shell tapering to a very fine point, clear white, yellowish, or with a rosy tinge, and rather glossy: spires eight or nine, with numerous longitudinal ribs, crossed by very fine transverse striæ; the volutions strongly defined, and flattened at their junctures on the top, giving them a remarkably turreted appearance: aperture oblong, ending in a broad canal: the outer-lip a little angular on the upper part; pillar-lip smooth: length three quarters of an inch; breadth a quarter.

Western coasts, and Dublin bay. *v. v.*

15. Murex rufus. *Rufous Rock-shell.*

Montagu, pl. 263.

Shell oblong, taper, rufous-brown or chesnut: spires six or seven, with about twelve longitudinal ribs, prominent in the middle, and very faintly striate across: aperture oblong, narrow, ending in a short canal; the outer-lip thickened by a rib; inner-lip smooth, much turned back, and forming a very small indenture at the end of the canal: length three tenths of an inch; breadth an eighth.

In old shells the transverse striæ are obliterated, so as to make the interstices of the ribs appear quite smooth.

Western coasts, and Dublin bay. *v. m.*

16. Murex

16. Murex Chordula. *Twine Rock-shell.*

Shell conic, a little tapering to a rather obtuse pale chesnut-brown: spires five, rounded and well the first occupying more than half the length, wit fifteen raised rounded wire-like ribs of equal d throughout, which continue over the junctions of tl tions, and curve in the middle towards the outer-li are also crossed by very fine spiral striæ: aperture oval, ending in a short canal; the outer-lip thicker rib on the back; inner-lip a little spread: length lines; breadth the third of its length.

This delicate species differs from M. rufus, in fewer volutions, in the ribs not being protuberant middle, and in their curvature in the middle of eac tion; it is also never half the size.

Drifted sand, in Dublin bay. *v. m.*

17. Murex linearis. *Linear Rock-shell.*

Montagu, pl. 9. f. 4.

Murex elegans. *Donovan*, pl. 179. f. 3.

Shell rugged, taper, glossy, light brown with g a purple tip: spires seven or eight, with about ter ribs, crossed by numerous thread-like raised spira the summits of which are often purple: apertu ending in a straight short, very open canal; the o thickened by a rib, the margin crenate by the incu of the spiral lines, and toothed within; pillar-lip s length a quarter of an inch or more; breadth abou

Western coasts; and Dublin bay. *v. v.*

18. Murex purpureus. *Purple Rock-shell.*

Montagu, pl. 9. f. 3.

Shell very rugged, tapering to a very fine poin purple with often white blotches: spires nine rounded, with about twenty ribs running a little ol to the right, and crossed by numerous sharp raise verse ridges, which rise into angles on the ribs, a the shell a very rough or cancelled appearance: a oval, ending in a short straight canal; the outer- with a white margin, crenate by the outward striæ;

purple, marked by the outer-ribs; pillar striate transversely in an oblique direction, to the end of the canal: length five-eighths of an inch; breadth a quarter.

Salcombe bay, and Dublin bay: rare. *v. m.*

Variety, with a notch on the upper angle of the outer-lip, like that on M. gracilis.

19. Murex muricatus. *Prickly Rock-shell.*

Montagu, pl. 9. f. 2.

Shell strong, rough, taper, white with a reddish or greenish tinge, often covered with an orange-red skin: spires six or seven, swelling and deeply defined, rather flattened at their tops, with about ten prominent ribs, and crossed by very strong raised lines, giving it a tubercled appearance: aperture roundish, ending in a long straight narrow canal, which is nearly smooth, and with the aperture almost as long as the rest of the shell; outer-lip spread, toothed at the edge, and slightly crenate within; pillar smooth: length more than half an inch; breadth not a quarter.

Western coasts, and Dublin bay. *v. m.*

20. Murex Bamffius. *Scotch Rock-shell.*

Donovan, pl. 169. f. 1—*Pennant*, pl. 82. f. 5.

Shell conic, tapering to a fine point, yellowish-white: spires six, swelling and rounded, with from twelve to twenty much raised ribs, which are sometimes spread into thin sharp longitudinal foliations, sometimes flat and irregular, and often curved towards the aperture, not striate transversely: aperture roundish, suddenly sloping at the outer and lower angle into a rather straight and elongated canal; the outer-lip thin: pillar rugged, with an indentation near the canal: length three-quarters of an inch; breadth more than a quarter. The young shells are often rufous-brown.

Scotch and western coasts, Dublin bay: rare. *v. m.*

21. Murex Gyrinus. *Screw Rock-shell.*

Laskey, Wern. Soc. i. pl. 8. f. 10.

Shell strong, conic, short, tumid, brown: spires four, regularly covered with dark chesnut turbercles, eight rows on the larger volutions, including the canal, and three rows

rows on the next: length hardly a quarter of an inch; breadth one eighth.

On the Scotch coast: very rare.

22. Murex reticulatus. *Reticulated Rock-shell.*

Da Costa, pl. 8. f. 13—*Dorset Cat.* pl. 14. f. 13.

Shell long, slender, tapering to a very fine point, rufous-brown: spires eleven or twelve, hardly raised, reticulate by longitudinal and transverse striæ, giving them a tubercled appearance; each volution with four rows, and the body volution four other strong transverse lines at the base which are not cut across by longitudinal ones: aperture roundish-oval, ending in a very slight canal: outer-lip a little crenate by the spiral ridges: length about half an inch; breadth hardly an eighth.

Dredged and drifted sand. *v. v.*

23. Murex tubercularis. *Tubercled Rock-shell.*

Montagu, p. 270.

Shell slender, taper, pointed, chesnut-brown: spires nine or ten, hardly raised, each with three rows of tubercles, which are equal in size throughout the shell: aperture small, oval, ending in a canal, somewhat closed by the pillar turning inwards: length a quarter of an inch.

Variety. Quite white and semitransparent.

Drifted sand: rare. *v. m.*

24. Murex subulatus. *Needle Rock-shell.*

Montagu, pl. 30. f. 6.

Shell very slender, white: spires about fifteen, hardly raised, defined by a purplish-brown line, each marked with two rows of bead-like tubercles divided by a depressed line, in which are observed minute raised lines in a contrary direction: aperture small, with a short canal turning to the left; the base without tubercles and dark-brown: length three-eighths of an inch.

In the sound of Mull: very rare.

25. Murex fuscatus. *Brown Rock-shell.*

Pennant, pl. 85. f. 1—*Linn. Trans.* viii. pl. 4. f. 6.

Shell tapering to a fine point, yellowish-brown: spires ten

ten or twelve, very short, wrought with tubercled spiral ridges, between which are three or four series of crenate striæ; the base spirally striate: aperture small, oval, ending in a slight canal: length an inch and a half; breadth half an inch.

In large shells the tubercles extend into long conic spines on the larger volution, and sometimes run together into a sharp spiral screw-like ridge.

Weymouth, and northern coasts: very rare.

26. Murex adversus. *Reversed Rock-shell.*

Turbo reticulatus. *Donovan*, pl. 159.

Turbo punctatus. *Walker*, f. 48.

Shell reversed, tapering to a fine point, opake, light-brown: spires ten or eleven, scarcely defined by the line of separation, with three rows of tubercles on each, the middle row of which is smaller than the rest: aperture oval, ending in a straight canal; the base with two or three smooth spiral ridges: length nearly half an inch; breadth hardly the eighth.

Western and Scotch coasts: very rare.

27. Murex minutissimus. *Linn. Trans.* iii. p. 65.

Shell taper, transparent; spires five, with remote ribs, and spirally striate; canal closed.

Pembrokeshire coast: minute.

MYA. *GAPER.*

Shell with two valves, generally open at one end: hinge with mostly a single broad thick spoon-shaped tooth, generally not inserted into the opposite valve.

A. *The teeth not inserted into the opposite valve,* 1 to 17.

B. *The teeth locking into the opposite valve,* 18 to 24.

1. Mya truncata. *Abrupt Gaper.*

Lister, pl. 428. f. 269—*Pennant*, pl. 44—*Da Costa*, pl. 16. f. 1—*Linn. Trans.* vi. pl. 14. f. 1, 2—*Donovan*, pl. 92—*Dorset Cat.* pl. 3. f. 1—*Wood*, pl. 17. f. 1, 2.

Shell oblong-oval, strong, broad, abruptly cut off at the

smaller end where it gapes very much, strongly wi transversely, covered with a tough ochraceous skin, extends beyond the margin at the open end and forms membranaceous wrinkled tube, sometimes from six inches in length, dead white under the skin; the convex, and turning a little back at the open end; white: hinge with a broad thick obtuse erect toot jecting forwards: length sometimes two inches and and three and a half broad.

At the mouths of rivers. *v. v.*

2. Mya arenaria. *Sand Gaper.*

Lister, pl. 418. f. 262, and pl. 419. f. 263—*Pennan —Donovan*, pl. 85—*Linn. Trans.* vi. pl. 14. f. 3, 4— *Cat.* pl. 4. f. 2—*Wood*, pl. 17. f. 3.

Shell strong, oval, gaping and rounded at both but elongated and narrowed on one side, covered thin yellowish or reddish-brown skin, sometimes with dark patches, irregularly striate concentrically often a faint appearance of longitudinal lines, some little distorted or indented at the margin; the narr turning a little back, with a few hairs attached to th skin; inside white, glossy; hinge near the large the tooth thick, erect, and spoon-shaped, with a s teral tooth-like projection from the anterior side: sometimes two inches and a half, and five in breadt

The younger shells are whitish, with an orange band round the margin; and when not more than inch in length, are clear white and transparent.

Under sand and gravel. *v. v.*

3. Mya declivis. *Sloping Gaper.*

Wood, pl. 18. f. 3.

Mya prætenuis. *Pennant*, pl. 50. f. 1.

Shell oval, rather convex, very thin and brittle transparent, wh te, smooth and somewhat polished, at the cartilage end which is a little roughened, at one end, somewhat truncate and angular and gaping at the other, often a little contracted at t margin towards the truncated side, irregularly striat versely: beaks nearly central, forming a roughe somewhat angular slope down the cartilage margi

white and somewhat polished: hinge with a projecting hollow tooth in each valve, with a cavity on the cartilage side: length three-quarters of an inch; breadth an inch and a quarter.

Western coasts, and Dublin bay. *v. v.*

4. Mya pubescens. *Rough Gaper.* Fig. 35.

Mya declivis. *Wood.* pl. 18. f. 2—*Dorset Cat.* pl. 4. f. 6.

Shell oblong-oval, thin, semitransparent, yellowish-white, roughened all over like shagreen, rounded at one end, slightly truncate and angular, and a little gaping at the other, irregularly striate transversely; one valve deeper and larger than the other, so as in some measure to inclose it; the front margin often a little contracted near the middle: beaks prominent, incurved, the points not placed quite opposite, but crossing each other, and forming an angular slope down the cartilage edge; inside white, but not glossy: hinge with a strong projecting hollow tooth in each valve, with a deep cavity on the posterior side, the opposite side projecting into a strong rib which runs along the middle of the cartilage edge forming a deep groove; besides this is another rib which runs rather obliquely from the tooth towards the truncated end: length of the specimen before us two inches and a half; breadth three and a half; but it is seldom found so large.

In the belief that these two shells are quite distinct, we are supported by the opinion of some highly respectable conchologists. Although they are sufficiently abundant on the Western coasts, no intermediate size has been yet discovered. One is roughened all over; the other is quite smooth, except at the cartilage slope. The beaks of M. pubescens cross each other, like the mandibles of the Loxia curvirostra, or Cross-beak: but the most striking and material difference is the strong rib and groove along the cartilage edge: there is also some difference in the teeth. For the present, therefore, we are inclined to offer them as distinct species, suggesting at the same time a close attention to their natural history.

In the Memoirs of the Wern. Soc. p. 505. pl. 24. f. 4, Mr. Brown has described and figured a shell under the name of M. pellucida, from the cabinet of Dr. Taylor of Dublin,

which we have very little doubt is this species of a smaller size, but which it has not been our good fortune to examine. We consider it however as an interesting subject, which may serve to establish or annul our suspicions as to the distinctions we have made between this species and the last. *v. v.*

5. Mya Norwegica. *Norway Gaper, Wood*, pl. 18. f. 4, 5.

Shell thin, brittle, transparent, convex, oblong-oval, white but not glossy, and covered when fresh with a fine brownish white skin, marked with numerous fine regular raised longitudinal striæ, and a few transverse wrinkles; one valve rather smaller than the other, and as it were received within it; the larger side rounded, the other or anterior side sloping from the beaks, and running in nearly a straight direction to the end, where it is truncated, very rugged, with the valves gaping and a little reflected; the front margin produced and rounded: beaks prominent, pointed, nearly central: inside richly nacred: hinge with a rather oblique triangular striated cavity in each valve: length three-quarters of an inch; breadth more than one and a quarter.

A fresh and perfect specimen of this rare shell was dredged up off Exmouth, in the present summer, and is now in the possession of Mr. Leasathorp, who obligingly suffered us minutely to examine and describe it. It had no decortication about the beaks, as mentioned in the specific character of Gmelin and Dillwyn, and which might have originated in an accidental abrasion of the fine epidermis or pellicle. The longitudinal striæ appear to be formed by regular corrugations of its outer skin, which at the smaller and gaping end enlarge into rough membranaceous folds. From the Mya striata it is distinguished by its greater convexity, the teeth, the produced and rounded outline of the front margin, and the narrowed truncated end which resembles that of the M. declivis. *v. m.*

6. Mya convexa. *Convex Gaper, Wood*, pl. 18. f. 1.
Mya declivis. *Donovan*, pl. 82.

Shell.

Shell very light and brittle, remarkably convex, strongly angular at the anterior side, covered with an ochraceous skin, under which it is clear white, rather rough on the angular side; inside yellowish white: hinge with a small oval tooth projecting horizontally: length about an inch; breadth an inch and a half.

Mr. Wood observes that it is certainly distinct from both the last, in its great convexity, and comparative lightness.

Devonshire, and Dublin bay: very rare. *v. m.*

7. Mya prætenuis. *Spoon-hinge Gaper.*

Montagu, pl. 1. f. 2—*Donovan*, pl. 176—*Wood*, pl. 24. f. 7 to 9—*Dorset Cat.* pl. 4. f. 7.

Shell oval, flat, thin, brittle, semitransparent, slightly and irregularly striate transversely, rounded at both ends, narrowed and rather pointed at one end, a little depressed at the front margin near the smaller end, in consequence of that part being somewhat turned up to form a small gape: color whitish, a little roughened and inclining to brown at the smaller end: beaks small, pointed, nearly central, inclining to one side; inside white but not polished, with two small ribs which run obliquely from the hinge half way down the cartilage side, leaving between them a long triangular glossy iridescent space: hinge with a broad projecting hollow spoon-shaped tooth in each valve, strongly striate concentrically: length an inch; breadth an inch and a half.

Montagu, in his figure, has represented the truncated side of Mya declivis, but the tooth is that of M. prætenuis. The outline of this shell much resembles that of the Mya arenaria. The figure in the Dorset Catalogue is an exact and beautiful representation; all the others quoted are indifferent.

Western coasts, and Dublin bay. *v. v.*

8. Mya distorta. *Deformed Gaper.*

Montagu, pl. 1. f. 1.

Shell somewhat oval, thin, brittle, semitransparent, white; the valves convex, of a rugged and variously distorted appearance, and more or less indented at the margin; inside white: hinge with a broad somewhat triangu-

lar tooth in each valve, hollow in the middle, and projecting inwards horizontally: length three-quarters of an inch; breadth an inch.

It differs from Mya prætenuis, in having the margin always irregularly waved.

Burrowed in limestone. *v. v.*

9. Mya bidentata. *Double-toothed Gaper.*

Montagu, pl. 26. f. 5.

Shell thin, flattish, somewhat oval, quite smooth, white but not glossy, often covered with a roughish extraneous coat, smooth within: hinge with two broad erect laminar teeth in one valve, which diverge outwards from each other, and are not very close together, with a slight cavity between them; in the other valve no teeth: length the eighth of an inch; breadth rather more.

Imbedded in the convex valves of old thick oyster-shells, just beneath the surface. *v. v.*

10. Mya decussata. *Decussate Gaper.*

Montagu, pl. 28. f. 1.

Shell oval, white, waved at the margin, with irregular concentric ridges, crossed by regular longitudinal striæ, which form tubercles at the anterior end; inside smooth, white: beaks obtuse, recurved, placed nearer to one end: hinge with a broad erect tooth in one valve; in the other a projecting plate, with a small indentation: length nearly half an inch; breadth rather more.

In the Firth of Forth: rare.

11. Mya purpurea. *Purple Gaper.*

Montagu, Suppl. p. 21.

Shell oval, whitish, growing purple towards the beaks, slightly wrinkled transversely; inside paler, with a plain margin: beaks placed considerably on one side, and turning towards the shorter end: hinge with a slightly notched erect tooth in each valve: length hardly a line; breadth rather more.

Devon coast, among Corallines: rare. *v. v.*

12. Mya ferruginosa. *Rusty Gaper.*

Montagu, pl. 26. f. 2.

Shell

Shell somewhat oval, rather convex, white, but mostly covered with a thick tough rust-colored skin, obscurely wrinkled transversely; inside white, glossy: the front margin nearly straight: beaks obtuse, placed nearer to one end: hinge with two projecting teeth separated by a large triangular cavity, one of them erect, the other turning inwards and sloping downwards: length about a quarter of an inch; breadth nearly half an inch.

Belton sands, Scotland; and Dublin bay. *v. m.*

13. Mya nitens. *Glossy Gaper.*

Laskey, Wern. Soc. i. pl. 8. f. 4.

Shell oval, glossy white, growing pink towards the beaks, with regular concentric striæ; inside colored in like manner, but not so glossy: beaks rather prominent, but not quite central: hinge with a single tooth in one valve, locking into a deep cleft between two slight elevations in the other: length nearly a qnarter of an inch; breadth something more.

Dunbar, and Dublin bay: rare. *v. m.*

14. Mya prismatica. *Prismatic Gaper.*

Montagu, pl. 26. f. 3.

Shell oblong-oval, flat, thin, glossy white reflecting prismatic colors in various positions of light, rounded at one end and sloping to a point at the other, obscurely striate concentrically; inside smooth, glossy: beaks small, nearer to and pointing towards the elongated end: hinge with a broad horizontal tooth, and an erect one, and a somewhat triangular depression in both valves; in one valve is also a small lateral plate which is wanting in the other: length three eighths of an inch; breadth as much again.

On the Scotch coasts, and at Exmouth. *v. v.*

15. Mya substriata. *Substriated Gaper.*

Montagu, Suppl. p. 25.

Shell somewhat oval, semitransparent, white, with obscure distant raised longitudinal lines; inside smooth, with a plain margin: beaks prominent, straight: hinge with a single projection inwards, margined so as to make it concave: diameter the tenth of an inch.

Devon coast, among Corallines: rare.

16. Mya

16. Mya dubia. *Doubtful Gaper.*

Pennant, pl. 47—*Donovan*, pl. 108—*Wood*, pl. 25. f. 2, 3—*Dorset Cat.* pl. 1. f. 11.

Shell oval, thin, brittle, opake, light brown, white within, irregularly wrinkled or rugged transversely, with a very large open gape in front, commencing near the hinge, becoming narrower towards the smaller end, and exposing the interior of the hinge and the rudiments of teeth: beaks small, prominent, placed at the larger end: hinge with a small plate or rudiment of a tooth in both valves, projecting inwards: length not half an inch; breadth about three quarters.

Imbedded in the hardest rocks. *v. v.*

17. Mya arctica. *Arctic Gaper.*

Shell oblong-oval, rather convex, coarse, greyish-white, truncate at the hinge end, and something rounded at the other, where it gapes a little, roughly striate transversely, with the striæ approaching to membranaceous ridges towards the back, a little inflected on the front margin: beaks prominent, pointed, close to the truncated end, from which run two raised ridges, one along the back margin, the other obliquely to the outer angle of the front margin, both of which are rough or somewhat spinous by the sharp duplicature of the transverse folds; under the beaks also, on the truncated slope, is an oblong striate depression; inside glossy white, with the margin plain: hinge with a strong projecting spoon-shaped cavity in each valve, the edge of which next the flattened side is a little raised so as to resemble a small tooth; from this cavity along the cartilage margin runs a small hollow groove in each valve, and below the hinge on the truncated margin withinside is a flattened space in both valves, in the middle of which there is an oblong cavity: length half an inch; breadth more than three quarters.

A living specimen of this very desirable shell we took from a mass of Sertularia, on the strand at Portmarnock, in Dublin bay. It had for some time been undistinguished in our cabinet, among a parcel of the Solen minutus; and it is probable that it may in this manner have been overlooked by other collectors.

Fabricius,

Fabricius, in his Fauna Groenlandica, describes the Mya arctica as having two somewhat spinous ridges, which are mostly obsolete, and with the hinge obscurely toothed, a character sufficiently answering to our shell.

This species, the Mytilus rugosus, and many specimens of the Solen minutus where the spines are obliterated, so much resemble each other, that it is frequently very difficult to distinguish them without a close examination of the hinge. It may however be remarked, that the Mya arctica and the Solen minutus both slope abruptly immediately from the hinge, and are each furnished with a depression on the slope under the hinge; but that the oblique dorsal ridge of the Mya arctica extends to the front angle of the opposite side, whilst in the Solen minutus this ridge usually reaches about half way down the margin of the opposite side, dividing as it were that side into two compartments, and giving it an angular appearance, as is well represented in Montagu's figure of his Mytilus præcisus. The Mytilus rugosus differs from both, in not having the hinge close to the end, and in having that side rounded. *v. v.*

B. *The teeth locking into the opposite valve.* 18 to 24.

18. Mya striata. *Striated Gaper.*

Linn. Trans. xi. pl. 13. f. 1—A.

Shell oblong, with the back margin running nearly straight, very thin, semitransparent, finely striate longitudinally; the anterior end truncate, with the valves reflecting and forming a gape when the shell is closed; the posterior end rounded: beaks small, placed nearer the rounded end; inside white, with a slight metallic lustre: hinge with a single broad erect tooth in one valve, locking into a correspondent cavity in the other: length half an inch; breadth an inch.

Found by Mr. Lyons, in Tenby bay: rare.

19. Mya Batava. *Dutch Gaper.*

Lister, pl. 146. f. 1—*Wood*, pl. 19. f. 1, 2.

Mya Pictorum. *Donovan*, pl. 174.

Shell oblong-oval, rounded at both ends, olive green inclining to brown, darker at the longer end, transversely striate,

striate, perlaceous within: beaks nearer one end: hinge with a broad notched tooth in both valves, and two lateral plates in one valve and one in the other, all locking into one another: length sometimes nearly two inches, and four in breadth.

It differs from the next, in having both the ends rounded, and the beaks less prominent.

In the river Kennet: rare. *v. v.*

20. Mya Pictorum. *Painter's Gaper.*

Lister, pl. 147. f. 3—*Da Costa*, pl. 15. f. 4—*Pennant*, pl. 46. f. 1—*Wood*, pl. 19. f. 3, 4—*Dorset Cat.* pl. 12. f. 4.

Mya ovalis. *Donovan*, pl. 89.

Shell oblong-oval, produced and narrower at one end, covered with a dark green skin, which in old shells becomes nearly black, irregularly striate transversely, perlaceous within; when shut the valves are closed in front, but a little open at both ends: teeth as in the last species, and of about the same size.

Rapid rivers: rare. *v. v.*

21. Mya ovata. *Oval Gaper.*

Lister, pl. 147. f. 2—*Wood*, pl. 19. f. 5—*Donovan*, pl. 101, and 122.

Shell oval, very convex, thick and brittle, much rounded at one end, produced and very narrow at the other, irregularly and coarsely wrinkled transversely, with sometimes faint longitudinal rays, covered with a green skin which varies more or less to a dark-brown towards the margin, under which it is of a fine opalaceous white color; inside perlaceous: beaks rather prominent; teeth as in the two last, and nearly the same size; but it is narrower than M. Batava, and broader than M. Pictorum.

In rapid rivers. *v. v.*

22. Mya margaritifera. *Pearl Gaper*, Fig. 47.

Lister, pl. 149. f. 4—*Pennant*, pl. 46. f. 2—*Da Costa*, pl. 15. f. 3—*Donovan*, pl. 73—*Wood*, pl. 23. f. 1 to 3.

Shell oblong-oval, thick, strong, covered with a black-brown skin, rounded at one end and a little angular at the other where it is sloping and depressed from the beaks to the

rgin, irregularly striate transversely, a little con-
or indented opposite the hinge on the front mar-
aks much worn and rugged, appearing as if worm-
inside perlaceous mixed with green, and often
vith pearly excrescences: hinge with a strong erect
1 one valve, locking between a widely cloven one in
er: length nearly two inches, and four in breadth.
pid rivers. *v. v.*

Mya inæquivalvis. *Unequal Gaper.*

tagu, pl. 26. f. 7—*Linn. Trans.* viii. pl. 1. f. 6—
r, f. 85.

l somewhat triangular, produced on one side, strong,
, opake, covered with a brown skin, under which it
e with frequently a flesh-colored skin, the younger
narked with pale or flesh-colored rays; one of the
much larger, regularly striate transversely with a
eper grooves, and folding over so as to receive the
r one; the lesser valve obscurely striate transversely,
few longitudinal raised lines: beaks prominent, gib-
that of the larger valve turning over and meeting
ier: hinge with a strong pointed recurved tooth in
rger valve, and a cavity; in the lesser valve is a
shaped tooth projecting inwards, having a raised
le at the posterior side, and a cavity, all locking into
ther; inside smooth, polished at the edge: length
a quarter of an inch; breadth not half an inch.
stern coasts, Scotland, Dublin bay. *v. v.*

Mya Glycymeris. *Great Gaper.*

er, pl. 414. f. 258—*Donovan*, pl. 142—*Wood*, pl. 25.

ll large, coarse, lamellar, oblong-oval, irregular at
argin, open at both ends, with regular waved trans-
ridges disposed like bands, and marked with fine
obliquely truncate at the anterior end: color yellow-
ochraceous, whitish within: beaks nearly central,
ly indented both sides: hinge with a large thick tooth
: valve, besides a lesser one and a series of wrinkles,
g into a cavity in the other valve: length four or five
; breadth eight or nine.

Mr.

Mr. Wood observes, that as this species seems to connect the Myæ with the Solenes, it is more properly placed at the end of the genus.

An imperfect specimen of this extremely rare shell was thrown up on the beach, at Teignmouth in Devonshire, in the summer of 1817. *v. m.*

MYTILUS. *MUSSEL.*

Shell with two valves, generally fixed by a beard of silky filaments: hinge without teeth, but marked by a longitudinal groove which is sometimes finely notched.

1. Mytilus Hirundo. *Swallow-tail Mussel.* Fig. 7.

Lister, pl. 220. f. 55, and pl. 224. f. 59—*Barbut*, pl. 11. f. 8.

Shell flat, with two unequal lobes reaching obliquely on each side from the hinge; the posterior lobe smaller, somewhat triangular and ending in a point, and irregularly wrinkled longitudinally; the anterior lobe as long as the shell, transversely wrinkled towards the end, which is rather rounded, and at its junction with the shell marked with semicircular wrinkles: color glossy chesnut-brown with whitish longitudinal rays or stripes, deeper brown towards the margin, which is rounded and strongly wrinkled transversely; inside silvery white: hinge a very long straight groove, in consequence of the great extension of one of the lobes, and a minute obtuse tooth-like projection within opposite the beak, which is rather tumid and pointed but not extending beyond the margin: length five eighths of an inch; breadth nearly an inch, including the wings or lobes, which run parallel with each other in an oblique direction.

This very interesting addition to the British Conchology, we found on the sand bank between the Pigeon-house and the light-house, in Dublin bay, in the summer of 1815. *v. m.*

2. Mytilus Morio. *Black Mussel.*

Avicula Morio. *Leach, Zool. Miscell.* pl. 38. f. 2.

Shell resembling M. Hirundo in shape, but is of a black color

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olor, more strongly striate transversely, and covered with a black-brown skin which folds into raised undulations radiating from the beak to the margin.

A specimen of this extremely rare shell was dredged up by Mr. Prideaux, in Plymouth-sound, among some corallines.

3. Mytilus Crista Galli. *Cockscomb Mussel.*

Barbut, pl. 11. f. 1, 2.

Shell compressed, rugged, varying in shape, armed with flat concave spines, and striate with raised dots, so as to be transversely rugged and strongly plaited longitudinally; the margin undulately plaited, with the convexities of one valve shutting into the concavities of the other: color ferruginous or dull purple, opake; inside smooth, horn-color: lips both rough: hinge simple, linear, without teeth: length about two inches; breadth two and a quarter.

On the bottoms of ships. *v. v.*

4. Mytilus edulis. *Common Mussel.*

Lister, pl. 362. f. 200—*Pennant*, pl. 66. f. 2—*Da Costa*, pl. 15. f. 5, left hand fig.—*Linn. Trans.* vi. pl. 18. f. 13, 14—*Donovan*, pl. 128—*Dorset Cat.* pl. 12. f. 5, left hand fig.

Shell oblong, very convex, somewhat falcate or incurved at the thicker or posterior margin, produced into a small angle at the anterior side, and rounded at the front margin, nearly smooth, covered with a dark and rather polished skin, under which it is rich blue or radiate with blue and white: beaks pointed, close together, with the appearance of a prominent ridge on each side the margin down the posterior slope; inside whitish with a blue margin, and under the beak are several small tooth-like crenulations on the margin: length three inches; breadth one and a half.

Common, in vast beds. *v. v.*

5. Mytilus incurvatus. *Incurved Mussel.*

Lister, pl. 362. f. 201, 202—*Pennant*, pl. 67. f. 1—*Linn. Trans.* viii. pl. 3. f. 7.

Shell oblong-oval, convex, opake, nearly smooth, of an unpolished greyish-blue color growing darker towards the sides and front margin, much incurved on the posterior

side, rounded or very slightly angular on the anterior margin, giving it a much more elongated appearance than the common Mussel, often variously distorted, with the front margin sometimes quite blunt or truncated: beaks pointed, slightly curved outwards, very remote from each other, and having the appearance of being each of them a little cloven at their tips; inside glossy blueish-white with a broad dark blue margin, and without the crenate denticulations under the beaks: length an inch and a half; breadth not an inch.

White, transparent. The very young shell.

Mytilus striatus. *Walker*, f. 75.

The natural history of this species, besides the marks already mentioned, leads us to consider it as very distinct from the last. They clothe, in prodigious masses, the sand-stone rocks in the south of Devon, and the schistose rocks in the west of Ireland, at low water, in which last place they are the food of Seals, Pelicans, and Gannets; but we have never observed them attached to limestone. In the early stage of growth they are covered with a dark skin, and are more or less angular on the anterior side; and it is not till they arrive at maturity that they put on the coarse grey appearance and incurvature by which they are so remarkably distinguished: they are also much more elongated in proportion to the breadth, and we have never been able to discover any traces of denticulation under the hinge. From the vast numbers which are so closely crowded together they seldom arrive at their full size: but at the point which separates the beach at Dawlish from the Warren, they may be gathered at low water in every stage of growth. *v. v.*

6. Mytilus pellucidus. *Transparent Mussel.*

Pennant, pl. 66. f. 3—*Donovan*, pl. 81.

Shell oval, thin, smooth, glossy, transparent, whitish or blueish covered with a yellow skin, radiate with deep blue or purple, not much incurved at the posterior side, but a little projecting at the other, broad and much rounded at the front margin; inside glossy blueish-white, with dark blue rays: beaks pointed, with very small denticulations under them: length hardly two inches; breadth about one.

Western coasts, and Dublin bay. *v. v.*

7. Mytilus

7. Mytilus ungulatus. *Hoof Mussel.*

Lister, pl. 360. f. 199—*Donovan*, pl. 128. f. 2.

Shell oblong-oval, very convex thin and brittle, wrinkled nsversely, of a greenish or blueish-black color, incurved the posterior side and much produced at the anterior rgin: beaks pointed, incurved, and diverging: hinge :h from two to six teeth at the point, besides nume- is crenulations on the groove: length four inches; breadth o or more.

Full-grown shells are very rarely found: but the young :s are covered with a pale oil-green skin, with longitu- al or transverse reddish zigzag lines or blotches, espe- lly on the angular side, and sometimes there is a narrow aight black or brown stripe or two from the beak down : anterior side; the posterior margin is also straight, h a gibbosity in the middle: these are not uncommon on) Devonshire coasts. *v. v.*

8. Mytilus Modiolus. *Smooth Mussel.*

Lister, pl. 359. f. 198, and pl. 1057. f. 5—*Donovan*, 23—*Da Costa*, pl. 15. f. 5, right hand fig.—*Dorset Cat.* 12, fig. 5, right hand fig.

Shell oblong-oval, thick, very convex towards the hinge, vered with a purplish black skin, under which it is white en mixed with flesh-color, strongly wrinkled trans- rsely, nearly straight on the posterior side, and very little gular on the other, perlaceous within: beaks very ob- e, a little turned to one side, placed laterally, in conse- ence of which there is a gibbosity formed by the protru- n of the posterior margin, and a slight notch, as in those the M. incurvatus: hinge without teeth or denticula- ns: length from four to six inches; breadth half as much. Maton and Rackett, and consequently Mr. Dillwyn, have oted the two figures 5, in Da Costa's fifteenth plate, in- criminately both for this species and the M. edulis, al- ough Da Costa has pointed out their distinct references. d Mr. Rackett, in his Dorset Catalogue, supposing them be the same, has omitted the reference to this species m his own plate.

Variety A. Contracted into a deep intorted rugged cavity low the hinge on the posterior side.

Mytilus umbilicatus. *Pennant*, pl. 68 — *Donovan*, pl. 40.

Plentifully on the beach at Cove, in Ireland, always solitary, and under rocks and stones, never found in beds nor attached by a beard. *v. v.*

Variety B. Covered with a rusty yellow glossy skin, very thin, clothed with a thick beard about the lower margin, especially on the anterior side, the foliations of which are plain or not serrate on either side. *v. v.*

Mytilus barbatus. *Pennant*, pl. 67. f. 2—*Donovan*, pl. 70.

Variety C. Flatter and more angular on the anterior side, covered with a chesnut-brown skin, clothed almost entirely with a viscid beard, the foliations of which are ensiform and regularly serrate down one side only. *v. v.*

Mytilus Gibsii. *Leach, Nat. Miscell.* pl. 72. f. 2.

9. Mytilus discors. *Pectinated Mussel.*

Da Costa, pl. 17. f. 1—*Donovan*, pl. 25—*Linn. Trans.* viii. pl. 3. f. 3—*Dorset Cat.* pl. 2. f. 1.

Shell oblong-oval, very convèx, transparent, covered with a light-brown skin, under which it is whitish stained with pale pink, produced and narrower at the anterior end, faintly wrinkled transversely, with regular longitudinal ribs on both sides, leaving the middle space with only the faint transverse str.æ : beaks large, prominent, much turned to one side ; inside perlaceous with the ribs visible ; the margin slightly toothed by the ribs at the sides : length half an inch ; breadth three eighths.

Sandy shores, and the stalks of Fuci. *v. v.*

10. Mytilus discrepans. *Discordant Mussel.*

Montagu, pl. 26. f. 4—*Linn. Trans.* viii. pl. 3. f. 9—*Walker*, f. 79.

Shell somewhat oval, flattish, rounded and broader at the anterior end, faintly striate transversely, and marked with longitudinal ribs on each side. Resembles the last, but is not so convex, covered with an olive-green skin, rounder and broader at the end remote from the hinge, and has only eight or nine ribs on the side near the beak, which are

are double the number in M. discors, and is generally of a smaller size.

In the Firth of Forth it has been found nearly two inches in length; and at Arklow, in Ireland, is generally attached to oysters. *v. v.*

11. Mytilus fuscus. *Brown Mussel.*

Lister, pl. 359. f. 197—*Brown, Wern. Soc.* p. 515.

"Shell oblong, narrow, with very fine transverse striæ; one side emarginate, the other rounded: beaks prominent, curved: minute, and brown."

Found at Sligo, and is in the cabinet of Dr. Macdonnell, Belfast.

Lister's figure represents it as transversely striate, Mr. Dillwyn describes it as smooth.

12. Mytilus rugosus. *Rugged Mussel.*

Lister, pl. 426. f. 267—*Pennant*, pl. 66. f. 1—*Donovan*, pl. 141—*Dorset Cat.* pl. 13. f. 5.

Mytilus lithophagus. *Linn. Trans.* viii. pl. 6. f. 3, 4.

Shell oblong, inclining to oval, but varying much in shape, being sometimes kidney-form or approaching to orbicular, opake, brittle, yellowish-white or rust-color, covered with a dull brown skin, rounded at one end, truncate and gaping at the other, transversely wrinkled, with two obsolete angles running from the hinge on the elongated side, one along the cartilage margin, the other obliquely to the front angle, giving the dorsal surface a flattened and somewhat triangular appearance, the ridges of which are frequently armed with a row of small hollow scales: beaks small, near but not close to the rounded end; inside glossy white, thickened under the hinge, with the margin plain: length half an inch; breadth an inch or more.

It is evident that Maton and Rackett, in their report of the shells which perforated the stone committed to their eluidation by the president of the Linnean Society, have confounded together the Mytilus rugosus and the M. lithophagus. The latter we have not yet discovered in our native rocks; but the former is found in great profusion, mixed with the Mya dubia, in the range of limestone rocks reaching from Torquay to Plymouth; but more especially in

those large detached masses which are scattered under the cliff at Torquay, near the entrance to the strand from the Tor-abbey fields. The Mytilus lithophagus, independently of the transverse striæ which cross the concentric ones on the cartilage side, is very convex and rounded on the back, giving the shell a somewhat cylindrical appearance when the valves are closed; the beaks are also terminal and somewhat pointed, like those of the M. Modiolus, with the opposite extremity rounded. Mr. Dillwyn has referred Lister's figure (which is an excellent one, and marked as English,) to the Solen minutus, which is truncate at the hinge end. Those which we have collected from among the roots of Fuci and Sertulariæ, are much more irregular in their figure, but all sufficiently retaining their specific marks. *v. v.*

13. Mytilus plicatus. *Plaited Mussel.*

Chemn. Conch. viii. pl. 82. f. 733. a, b.

Shell oblong, very thin, transparent, dirty white, uneven on the surface, slightly plaited and irregularly wrinkled transversely, rounded on the side next the hinge, angular and dilated on the other, causing it to be a little larger, where it gapes; inside glossy, rather perlaceous: hinge near the rounded and smaller end: beaks small, a little incurved: length not half an inch; breadth double its length.

Isle of Sky, and Dublin bay: rare. *v. m.*

14. Mytilus decussatus. *Decussated Mussel.*

Chemn. Conch. viii. pl. 85. f. 761.

Shell longitudinally oval, thin, transparent, very convex, covered with a pale olive skin, under which it is pearly white, finely striate longitudinally, and crossed by more minute transverse lines; inside smooth, perlaceous; the sides equal; beaks close to the smaller end, with a slight indenture, and the contiguous margin is faintly denticulate; and near the front margin is a singular reflected transverse ridge: length the eighth of an inch; breadth not so much.

Only one valve of this shell was found by Captain Laskey, on the Scotch coast: its convexity gave it the appearance of a Patella; but the hinge is that of a bivalve destitute of teeth.

15. Mytilus

Mytilus stagnalis. ***Stagnant Mussel.***

erby, ***Brit. Miscell.*** pl. 16.

ll oval, convex, of a greenish color which becomes of wish brown towards the margin, and marked with longitudinal rays, strongly striate or somewhat ribbed ersely: length five inches; breadth eight.

nd in Kew garden.

Mytilus dentatus. ***Toothed Mussel.***

ll oval, very convex thin and fragile; rounded and r at one end, narrowed and rounded at the other, the back is depressed, slightly angular and flexuous, larly striate transversely, and somewhat wrinkled lon- ıally: color glossy sea-green, growing olive-green or at the sides and margin, with numerous faint broken ish white longitudinal rays: beaks nearer the broader lmost obliterated, perlaceous; inside silvery or fawn- often rough with purple perlaceous excrescences ls the hinge and the angular side: in one valve a ɔrojecting obtuse tooth, placed at some distance from ak and nearly central, and in the other a transverse one: length three inches and a quarter; breadth six ıalf.

ether this be the M. Zellensis of Gmelin, or the M. lis of Sowerby, we are unable to determine; but in- lently of its shape and markings, the teeth, which ver wanting, are sufficient characters to distinguish ı the two next.

y are found, but very rarely, in the great bog of in Ireland, resting upon the soft mud, where they bject to little or no agitation. *v. v.*

Mytilus cygneus. ***Swan Mussel.***

er, pl. 156. f. 11—***Pennant,*** pl. 70—***Donovan,*** pl. 55. ***Trans.*** viii. pl. 3 A. f. 1.

ll convex, oval, thin, brittle, rounded at one end, and rly sloping rather into a point at the other, where it ittle compressed towards the hinge, with rugged erse wrinkles and protuberances, covered with an reen skin; inside perlaceous: hinge small, nearer

one

one end: length two inches and a half; breadth five or six.

In deep rivers and ponds. *v. v.*

18. Mytilus anatinus. *Duck Mussel.*

Lister, pl. 153. f. 8—*Pennant*, pl. 71—*Da Costa*, pl. 15. f. 2—*Donovan*, pl. 113—*Linn. Trans.* viii. pl. 3 A. f. 2—*Dorset Cat.* pl. 12. f. 2, and pl. 13. f. 6.

Shell oval, thin, deep green or blackish; the cartilage margin running straight, and then sloping suddenly and obliquely, forming a pointed angle about half way down; inside perlaceous: beaks more or less decorticated, and the front margin terminating in a membranaceous skin: length two inches; breadth hardly three.

It differs from the last, in size, in the projecting angle on one side, and in the beaks, which are more or less decorticated.

Variety. Thicker, more ponderous and rough, more angular on the cartilage side, and a little contracted in front.

Linn. Trans. viii. pl. 3 A. f. 3.

It is evident that Maton and Rackett have misunderstood these two species, by inverting the references to their own plates. Da Costa properly observes that this last species differs "in being only about half the size, rather more compressed and oblong, and that the cartilage or lengthened side extends or runs in a straight line to an acute angle like a fin, and thence continues down the side in an oblique line, till near the bottom, where it is rounded."

Pennant and Dillwyn, in copying from them, have fallen into the same error.

In ponds and deep rivers. *v. v.*

19. Mytilus Avonensis. *Avon Mussel.*

Linn. Trans. viii. pl. 3 A. f. 4—*Lister*, pl. 154. f. 9?

Shell somewhat oval, thin, olive-brown, with transverse wrinkles. Resembles the last, but is broader in proportion to its length, not so much produced at the hinge, the cartilage side more rounded and less angular, and the front margin runs nearly straight or is very slightly arched, particularly towards the smaller end.

In the Avon, Wiltshire: rare. *v. m.*

NAUTI

NAUTILUS.

Shell with a single valve, consisting of compartments or cells, communicating with each other by means of a small perforation or tube.

A. *With the spires detached.* 1.

B. *With the spires connected.* 2 to 12.

C. *Elongated, and more or less straight.* 13 to 24.

1. Nautilus Spirula. *Crosier Nautilus.* Fig. 77.

Lister, pl. 550. f. 2.

Shell spiral, extremely thin and brittle, transparent, white or cream-color: spires five, cylindrical, detached from each other, divided into numerous chambers at nearly equal distances, which are distinguished by a depressed circular line on the outside; the primary volution running nearly straight and very remote from the next; the remaining ones growing gradually less and closely involuted but not touching each other; the line of junction also becomes gradually deeper towards the smaller end, giving the different divisions a more rounded appearance, till the terminal ones appear somewhat globular: aperture orbicular, perlaceous within, the chambers separated by thin pearly plates, with a small tube of communication which is placed near one side: diameter nearly an inch; of the larger volution nearly a quarter of an inch.

Two specimens of this interesting addition to our native stock, were found on the strand between Kenmare harbour and Ballyskelligs bay, in the county of Kerry, Ireland, by our intelligent and much respected friend, Mr. O'Kelly of Dublin, in the summer of 1817; where, as he observes, the waves of the Atlantic come unbroken from the shores of America; and where he also found at the same time, the Helix ianthina with the animal in it, and the rare Lepas sulcata. *v. m.*

B. *With the spires connected.* 2 to 12.

2. Nautilus lacustris. *Fresh-water Nautilus.*

Montagu, pl. 6. f. 3—*Walker,* f. 28.

Shell horn-color or rufous-brown, smooth, glossy, transparent,

parent, flattish, convex on the upper-side, concave and deeply perforated underneath, with a slight keel-like ridge: spires four, bordered on the outside with a whitish opake stripe running spirally to the centre: on the first volution are three compartments, nearly at equal distances from each other, the lines of junction appearing like white curved stripes radiating from the centre, the first of them placed distant from the aperture, which is narrow, somewhat heart-shaped, and clasping the spire on both sides: diameter hardly a quarter of an inch.

On aquatic plants. *v. v.*

3. Nautilus rotatus. *Star Nautilus.*

Nautilus Calcar. *Montagu*, pl. 15. f. 4—*Walker*, f. 66.

Shell smooth, equally convex on both sides, rather more raised in the middle, with a strong ridge on the back, which is entire: joints six, marked by elevated flexuous lines radiating from the centre like a star, but not quite reaching to the outer margin: aperture half heart-shaped, clasping the body equally on both sides, furnished with a small perforation: minute.

On shells, corallines, and other substances. *v. v.*

4. Nautilus lævigatulus. *Smooth Nautilus.*

Montagu, pl. 18. f. 7, 8—*Walker*, f. 67.

Shell smooth, opake, pale rusty-brown, considerably and equally convex on both sides, declining to a rounded margined edge, but not perfectly forming a keel-like ridge: joints about ten, marked by flexuous rather raised lines, which emanate from the margin and are rather of a deeper color: aperture surrounded by a rim, forming a triangle, and not attached to the body: minute.

In fine and drifted sand. *v. m.*

5. Nautilus depressulus. *Depressed Nautilus.*

Montagu, pl. 18. f. 9—*Walker*, f. 68.

Shell glossy-white, semitransparent, flat, equal on both sides and without any prominent ridge: joints about nine, marked by opake curved lines radiating from the centre, where there is a small transparent spot, and the curved lines

lines are not visibly raised: aperture half heart-shaped, very little clasping the body at the sides: minute.
In fine and drifted sand: *v. m.*

6. Nautilus umbilicatulus. *Perforated Nautilus.*

Montagu, pl. 18. f. 1—*Walker*, f. 69.

Shell white, semitransparent, flat, perforated on both sides: joints nine or ten, raised and rather rounded, marked by radiating lines which are depressed: aperture clasping the body nearly equally on both sides: minute.
In fine and drifted sand. *v. m.*

7. Nautilus crassulus. *Thick Nautilus.*

Montagu, pl. 18. f. 2—*Walker*, f. 70.

Shell strong, flat, opake, pale brown, with a deep perforation on both sides: joints numerous, close together, and raised above the line of separation: aperture a little oblique, hardly clasping the body, furnished with a syphon: minute.
In fine sand. *v. m.*

8. Nautilus crispus. *Crimpled Nautilus.*

Montagu, pl. 18. f. 5—*Dorset Cat.* pl. 19. f. 29—*Walker*, f. 65.

Shell white, opake, perforated both sides, with a keel-like ridge on the outer edge: joints about twenty on the larger volution, flexuous and crenate, and marked by raised lines: aperture half heart-shaped, clasping the body, furnished with a small central syphon.
In fine sand. *v. m.*

9. Nautilus Beccarii. *Twisted Nautilus.*

Montagu, pl. 18. f. 4—*Dorset Cat.* pl. 19. f. 28—*Walker*, f. 63.

Shell transparent, white or covered with a brown skin, crimson when the inhabitant is alive, convex on one side and flat on the other: spires four or five, twisted, with ten joints in the first which are deeply grooved: aperture oval: minute.

Variety. With the spires reversed.

Montagu, pl. 18. f. 6—*Walker*, f. 64.
On oysters, and sea weeds. *v. v.*

10. Nautilus

10. Nautilus inflatus. *Inflated Nautilus.*

Montagu, pl. 18. f. 3.

Shell brown, opake, with three volutions; in the first an five joints which are exceedingly tumid and rounded, an so deeply divided as to appear like lobes; the anterior en or aperture somewhat globular: minute.

In fine sand. *v. m.*

11. Nautilus lobatulus. *Lobed Nautilus.*

Serpula lobata. *Montagu*, p. 515, and *Suppl.* p. 160- *Walker*, f. 71.

Shell compressed, white or yellowish, with a frosted ap pearance when much magnified, roundish or inclining t oblong, convex above and flat beneath: on the first vol tion are six or seven lobed joints, separated by faint cre cent-shaped lines: aperture extremely small: minute.

Attached to Zoophytes. *v. m.*

12. Nautilus dissimilis. *Discordant Nautilus.*

Serpula concamerata. *Montagu, Suppl.* p. 160.

Shell white, semitransparent, a little convex above ar flat beneath: spires three, irregular, with numerous dis milar joints; on the outer volution are about nine, whi are glossy and tumid, of unequal size, but generally alt nately a larger and a smaller one. It differs from the l in possessing much more numerous and infinitely mo minute joints, which are smooth and glossy but not of th frosted appearance which always accompanies the la minute.

Attached to Zoophytes. *v. m.*

These two last, from their being always attached s sessile, seem to connect the Serpulæ with the Nautili.

C. *Elongated, and more or less straight.* 13 to 24.

13. Nautilus carinatulus. *Keeled Nautilus.*

Walker, f. 72.

Shell whitish, transparent like glass, oblong, arche the back, but very little if any thing raised into a k like ridge: joints seven, regularly decreasing, the termi one globular: aperture linear-oval: minute.

In fine sand. *v. m.*

14. Naut

4. Nautilus semilituus. *Curved Nautilus.*

Montagu, pl. 19. f. 3.

Shell opake, brown; the six upper joints a little curved, l each of them separated by a straight raised line; the er-ones curling inwards, or sometimes nearly straight; back margin with raised ridges at the division of the its: aperture a little contracted and rounded, with a all syphon which is placed nearly in a line with the er margin: minute.

n fine sand. *v. m.*

5. Nautilus subarcuatulus. *Hooked Nautilus.*

Montagu, pl. 19. f. 1—*Walker*, f. 73.

Shell white, glossy, semitransparent, with twelve joints; four or five primary ones nearly straight, and separated oblique raised and more opake lines; the rest curling rally inwards, and divided by radiating lines; the back rgin furnished with a raised ridge, and slightly indented the divisions of the joints; the front margin obtusely nded: aperture oblique, with a small syphon at the up- point: length the eighth of an inch.

Mr. Dillwyn, misled by Maton and Rackett, has united se two last very distinct species, omitting Montagu's me of the first.

In fine sand. *v. v.*

16. Nautilus Legumen. *Pod Nautilus.*

Montagu, pl. 19. f. 6.

Shell white, smooth, glossy, transparent, somewhat flat- ed, a little concave on one side, without marginal ridge either side, a little curved, slightly tapering or nearly of nal diameter at both ends, the extremities of which are ittle rounded and contracted: joints eight or nine, divi- d by oblique lines; the anterior or larger end oblique and rgined, with an obtuse syphon which rises above the rgin, and a considerable aperture near the concave side: gth above the eighth of an inch.

In fine sand. *v. m.*

17. Nautilus rectus. *Straight Nautilus.*

Montagu, pl. 19. f. 4, and 7—*Walker*, f. 74.

Shell brown, opake, thick, smooth, a little curved and

vided, and not quite regular in their size; the smooth or upper termination produced obliquely into a syphon, the other end rounded: length nearly a quarter of an inch.

In fine sand, near Dunbar.

NERITA. *NERITE.*

Shell with a single valve, spiral, gibbous, flattish beneath: aperture half orbicular; the pillar-lip transverse, flattish, and truncate.

A. *The lips without teeth.* 1 to 10.

B. *The pillar-lip toothed.* 11.

1. Nerita sulcata. *Grooved Nerite.* Fig. 56, 57.

Nerita glabrissimus. *Brown, Wern. Soc.* pl. 24. f. 12.

Shell somewhat globular, semitransparent, of a blueish-white color: spires four, rather pointed, swollen and well-defined; the first very large, the others placed somewhat laterally; all of them marked with rather remote longitudinal striæ which are very fine and placed a little obliquely: aperture broad crescent-shaped; the outer lip very thin; pillar-lip rather flat, projecting a little in the middle over the perforation which is long and deep, and marked with a few longitudinal lines: diameter the eighth of an inch.

Two specimens of this shell we found among the sand in Dublin bay. From the foreign specimens in our cabinet they differ in size and color, the latter being clear white, and three-quarters of an inch in diameter: the grooves also of our shell are merely fine striæ, and placed at more remote distances. *v. m.*

2. Nerita glaucina. *Livid Nerite.*

Lister, pl. 568. f. 19—*Pennant*, pl. 90. f. 1—*Da Costa*, pl. 5. f. 7—*Donovan*, pl. 20. f. 1—*Dorset Cat.* pl. 21. f. 7.

Shell somewhat orbicular, glossy, slightly wrinkled longitudinally, of a livid grey or pale chesnut-brown color, with mostly a chain of deep chesnut-brown zigzag short lines surrounding the junctions of the volutions, and which are disposed in a longitudinal direction: spires six, rounded and well defined; the first very large and tumid; the others

others ending in a fine point, and placed somewhat laterally: aperture oval or half-moon shaped; the outer margin very thin; pillar-lip reflected, forming a large and deep perforation behind it: length sometimes an inch and a half; breadth rather less.

Variety A. With the volutions more produced to a point, and without the coloured markings.

Nerita lævida. *Lister*, pl. 569. f. 20—*Laskey, Wern. Soc.* i. p. 409.

Variety B. Highly polished, with the volutions flat and hardly distinguishable, more elongated and sloping to a fine point, of a white color shaded with pale carnation; the first marked with five rows of arrow-shaped crimson spots, one row of which continues round the base of the lesser ones, the fourth and sometimes the third chain consisting of short oblique lines; the outer-lip with an oblong crimson patch behind it: length three-quarters of an inch; breadth half an inch.

This variety is so different in its contour and markings from the N. glaucina of the same size, that we are much inclined to think it a distinct species. It is found plentifully in Dublin bay, always preserving its separate character.

On most sandy coasts. *v. v.*

3. Nerita Canrena. *Bonnet Nerite.* Fig. 71, 72.

Lister, pl. 560. f. 3, 4, pl. 564. f. 11.

Nerita intricata. *Donovan*, pl. 167.

Shell exactly resembling N. glaucina, but is more produced and pointed; and the perforation is furnished with two spiral ridges, making it gibbous and cloven: length half an inch; breadth rather less.

On the Western coast: very rare. *v. m.*

4. Nerita Mammilla. *Nipple Nerite.*

Lister, pl. 571. f. 22, and pl. 566. f. 14.

Nerita nitida. *Donovan*, pl. 144.

Shell oval-oblong, glossy, white or yellowish: spires five, short, flat, and hardly defined, the suture being nearly obliterated: aperture oval, the perforation being nearly or quite closed by the gibbous protrusion of the pillar-lip:

length about half an inch; breadth two-thirds of it length.

On the Western coasts: very rare. *v. m.*

5. Nerita rufa. *Rufous Nerite.*

Lister, pl. 606. f. 34—*Montagu*, pl. 30. f. 3.

Shell smooth, glossy, of a livid purplish color: spire four, the body-one very large, with two or three whit bands which are continued in a single belt round the other the second volution very tumid: aperture roundish-oval the pillar-lip reflected and forming a large projection whic narrows the perforation and occasions an indenture on eac side: diameter more than half an inch.

It is distinguished from all the numerous varieties Turbo canalis, in having the perforation placed behind th pillar-lip, and not on the flattened surface of the pillar i self at the termination of a groove; a circumstance whic is never known interchangeably to vary.

On the Dunbar coast: very rare.

6. Nerita litoralis. *Strand Nerite.*

Lister, pl. 607. f. 39 to 42—*Pennant*, pl. 90. f. 3—*I Costa*, pl. 3. f. 7, and pl. 4. f. 2, 3—*Donovan*, pl. 20. f. 2 *Linn. Trans.* viii. pl. 5. f. 15—*Dorset Cat.* pl. 16. f. 13 16, and pl. 20, f. 2, 3.

Shell thick, strong, often very faintly striate transverse and wrinkled across: spires four or five, the lesser on much flattened to the body volution so as hardly to be stinguished, except by a depressed spiral line; sometim a little produced; rarely somewhat elongated and rais into a ridge on the middle of the body volution: color rious shades of yellow, green, brown, or chesnut, son times spotted or chequered, or marked with colored spi bands: aperture nearly orbicular; the outer-lip thicken with a thin edge elongated towards its attachment to t body volution; pillar-lip thick, flattened, glossy, with ve rarely a puncture at the top like an incipient perforatio inside generally colored, and sometimes spotted w white: length three-quarters of an inch; breadth hardly much.

On all rocky coasts. *v. v.*

7. Ner

7. Nerita fluviatilis. *River Nerite.*

Lister, pl. 141. f. 38, and pl. 607. f. 43, 44—*Pennant*, pl. 90. f. 2—*Da Costa*, pl. 3. f. 8—*Donovan*, pl. 16. f. 2—*Dorset Cat.* pl. 16. f. 17, 18.

Shell somewhat oval, semitransparent, often covered with a greenish or brownish skin, slightly wrinkled across, variegated with purplish-brown, white, pink, or pale brown, in spots, streaks or bands: spires three, the first volution very large and produced at the outer-lip; the others small but well defined, placed laterally, and ending in a fine point: aperture half-moon shaped; the outer lip thin; pillar-lip white, polished, broad, with an acute entire edge: diameter three-eighths of an inch.

In slow rivers. *v. v.*

8. Nerita tuberosissima. *Tubercled Nerite.*

Montagu, pl. 29. f. 5.

Shell white, transparent, somewhat orbicular, with a very minute point: spires three or four; the first very large, and marked with four circular tubercled ridges; the others very small and lateral: perforation large: diameter about the eighth of an inch.

Firth of Forth: very rare.

9. Nerita pellucida. *Linn. Trans.* iii. p. 67.

Shell smooth, transparent, with three volutions: minute.

On the Pembrokeshire coast.

10. Nerita alba. *Linn. Trans.* iii. p. 67.

Shell smooth, semitransparent, with two volutions: minute.

On the Pembrokeshire coast.

B. *With the pillar-lip toothed*, 11.

11. Nerita virginea. *Spotted Nerite.*

Lister, pl. 606. f. 35 to 37.

Shell oval, smooth, polished, white with a pale ferruginous tinge, elegantly marked with black zigzag lines running in various directions: spires three or four, hardly distinguishable from each other, with a blackish line running round the junctions, and a little carious at the tip: aper-

ture

ture half-moon shaped; the outer-lip thin and entire; pillar-lip broad, white, transverse, furnished with five or six small teeth on the edge: diameter hardly the eighth of an inch.

Of this beautiful little shell we found several specimens among the sand at Seafield, in the west of Ireland, on the Atlantic: very rare. *v. m.*

OSTREA.

Shell with generally two unequal valves: hinge without teeth, but furnished with a hollow in the middle, and mostly lateral transverse grooves.

A. *The valves furnished with ear-like appendages, and generally ribbed.* Scallop. 1 to 11.

B. *Without ears, and generally rough on the surface.* Oyster. 12, 13.

1. Ostrea maxima. *Great Scallop.*

Lister, pl. 163. f. 1—*Pennant*, pl. 62—*Da Costa*, pl. 9. f. 3—*Donovan*, pl. 49.—*Dorset Cat.* pl. 9. f. 3.

Shell with fourteen or fifteen rounded ribs, which are grooved longitudinally, and finely striate transversely between the ribs; the upper-valve flat and white, with a depression near the hinge of a rufous color; lower valve white with a yellowish tinge, very finely and regularly striate longitudinally; inside whitish, with a broad deep-purple margin: ears large, equal, striate in a decussate manner: length five inches; breadth nearly six.

Variety. Beautifully marked on the flat valve, with red, yellowish white, and deep chocolate-brown, generally disposed in transverse bands; and some deep chocolate lines on the ears.

At the mouths of rivers: the variety has been taken, we believe, only at Weymouth and Exmouth. *v. v.*

2. Ostrea Jacobæa. *Pilgrim Scallop.*

Lister, pl. 165. f. 2, and pl. 166. f. 3—*Pennant*, pl. 63. f. 1—*Donovan*, pl. 137—*Dorset Cat.* pl. 13. f. 2.

Shell with seventeen or eighteen somewhat angular ribs; the

-valve a little convex, with a whitish depression
inge, the ribs strongly striate, which gives them
at angular appearance, of a deep rufous brown
e lower valve white, very convex, with the ribs
nded and the grooves between them very deep,
y smooth or with only a few longitudinal lines
eral ribs; in which last circumstance it is distin-
om O. maxima: ears equal, striate in a decussate
inside white, rufous round the margin: length
our inches; breadth four or five.
n coasts, and Dublin bay. *v. v.*

ea opercularis. *Painted Scallop.*
pl. 182. f. 19, pl. 190. f. 27, pl. 191. f. 28, and
9—*Pennant*, pl. 63. f. 2—*Da Costa*, pl. 9. f. 1,
Linn. Trans. vi. pl. 18. f. 7, 8—*Dorset Cat.* pl. 9.
5.
subrufus. *Donovan*, pl. 12.
early orbicular, with about twenty rounded ribs,
h longitudinally and transversely, giving the sur-
ughened or slightly beaded appearance; one of
i much more convex than the other: color and
in endless varieties of white, yellow, brown, red,
sometimes plain, but mostly marbled or spotted,
i are much more richly displayed on the deeper
side white, polished, frequently tinged with other
th a tooth-like projection each side in each valve
r the ears: ears nearly equal, ribbed transversely
e longitudinally: diameter two inches and a half.

. White, with a red longitudinal line down the
the ribs, on the convex valve. *Fig.* 74.
pl. 170. f. 7.
lineata. *Da Costa*, pl. 10. f. 8—*Donovan*, pl. 116.
Cat. pl. 10. f. 8.
. be clear to any one who closely examines
ty, that the supposed subcarinated appearance
s, is merely caused by the red line down the mid-
h. In all other respects it is precisely similar to
ercularis. The ribs in both are rounded at the
the shell, and put on a gradually more sharpened
hey approach to the hinge; and we have observed
that

that the red color frequently diffuses itself over the surface, sometimes over the ribs of the flatter valve, and even on the inside. But the strongest evidence for their specific union, is the somewhat oblique outline equally observable in both, and which is more peculiarly distinguishable within-inside, or on the flatter valve, one end being more sloping from the ears, and the opposite end appearing as if it were more produced.

On most sandy shores. *v. v.*

4. Ostrea varia. *Prickly Scallop.*

Lister, pl. 180. f. 17, 181. f. 18, and pl. 189. f. 23—*Pennant*, pl. 64. f. 1—*Da Costa*, pl. 10. f. 1, 2, 4, 5, 7, and 9—*Donovan*, pl. 1. f. 1—*Dorset Cat.* pl. 10. f. 1, 2, 4, 5, 7, and 9.

Shell oblong, with about thirty rounded ribs, which are rough with concave spines, especially about the margin, both valves equally convex: color and markings variable like O. opercularis, but generally of a darker hue, sometimes blackish purple marbled with yellowish white with the inside dark glossy purple, sometimes pale with a pink tinge, and rarely of an uniform white, pink, deep green or orange: ears very unequal; the longest very much wrinkled on the upper edge, the other edge striate and fringed with spines; the lesser valves both striate and fringed: length two inches and a half; breadth two inches.

Sandy shores. *v. v.*

5. Ostrea sinuosa. *Distorted Scallop.*

Lister, pl. 172. f. 9—*Pennant*, pl. 64. f. 2—*Da Costa*, pl. 10. f. 3, 6—*Dorset Cat.* pl. 10. f. 3, 6.

Pecten Pusio. *Donovan*, pl. 34.

Shell oblong, sometimes nearly orbicular, more or less distorted on the surface and irregular at the margin, often very rough with spinous foliations, with numerous very fine ribs or lines, some of them larger and slightly tuberculed by transverse striæ: one of the valves very convex and deformed by swellings and protuberances; the other much flatter and more even: color pink or brownish, or marbled with white: ears sometimes nearly equal and striate, often very unequal, and frequently hardly distinguishable; the

the margin crenate within: length nearly two inches; breadth one and a half.

On the sandy shores of England and Ireland, sometimes fixed to rocks, and sometimes entirely imbedded in hard limestone. *v. v.*

6. Ostrea fragilis. *Brittle Scallop.*

Lister, pl. 177. f. 14.

Shell oblong-oval, rather convex, milk-white but not glossy, brittle, semitransparent, with about twenty-five longitudinal and somewhat undulated lines or fine ribs, and two or three minutely finer ones between each of them: valves equal, with the sides unequal, one being straight, the other produced and somewhat angular: hinge a little oblique: beaks pointed, prominent, reaching a little beyond the margin of the hinge, but not meeting together when the valves are closed, in consequence of the thickened inner transverse margin, with an oval hollow between them; ears small, equal, smooth: inside white glossy, striate longitudinally, with the front margin slightly undulated rather than notched: length three-quarters of an inch; breadth not quite half an inch.

This is the only British species which has the cartilage placed externally, in the hollow between the beaks, and not as in the rest, in an oval internal cavity.

Devonshire coast: very rare. *v. m.*

7. Ostrea subauriculata. *Small-eared Scallop.*

Montagu, pl. 29. f. 2.

Shell oval-oblong, white, transparent, with numerous longitudinal striæ, two of them running down the middle and appearing more conspicuous than the rest from their being opake, and are equally visible on the inside: valves equal, with the sides exactly equal; the margin slightly crenate: ears very small, equal: hinge exactly in the middle, and not sloping to one side as in the last: length a quarter of an inch; breadth half as much.

On the Devonshire coast: very rare. *v. m.*

8. Ostrea lævis. *Smooth Scallop.*

Montagu, pl. 4. f. 4.

Ostrea similis. *Laskey, Wern. Soc.* i. pl. 8. f. 8.

Shell

Shell somewhat orbicular, flat, thin, semitransparent, quite smooth and glossy, except a few faint transverse wrinkles, white or pale grey, sometimes mottled with brown; the valves nearly equal: ears unequal, one of them very large, the other small, slightly striate longitudinally; inside glossy white: length half an inch; breadth not quite so much.

From the plain variety of O. sinuosa it may at once be distinguished, by the want of the very fine decussate striæ, with which that shell is always marked.

At the time Captain Laskey recorded his O. similis, the true characters of O. lævis and O. obsoleta were not clearly understood: and as the only distinction between his shell and the O. lævis is the want of the striæ towards the margin, at that time supposed to form one of its essential marks, it can now only be considered as O. lævis.

Western coasts, and North Britain: very rare. *v. m.*

9. Ostrea tumida. *Tumid Scallop.*

Shell somewhat orbicular, flattish, glossy white, transparent, quite smooth: valves equal, with the sides unequal, both of them rounded, but one of them produced: beaks pointed, not quite central; hinge straight, with the ears rather large, equal, and quite smooth; inside white, smooth, with a large chalky patch in the centre, the margin plain: length a quarter of an inch; breadth rather more.

A single specimen only of this shell has as yet occurred to us, taken from the cavities of a large mass of the Serpula complexa, and which was dredged up at Torbay. It is entirely unlike any other species with which we are acquainted; and in consequence of one of the sides being more tumid or produced, the breadth somewhat exceeds the length. *v. v.*

10. Ostrea glabra. *Mottled Scallop.*

Montagu, pl. 28. f. 6.

Shell rounded, thin, nearly smooth but not glossy, most minutely striate transversely, with seven rounded and slightly raised rays, mottled with rufous brown and yellow: ears large, nearly equal, one of them reticulated, the other only striate; inside marked with twenty-one slender rays, the

he sixteen middle ones placed in fours; that is, there are our of these quadruple series between the grooves correponding with the rays on the outside, the two middle sets f which are near together, the others being remote, the olor paler than the outside except near the hinge: length ree quarters of an inch; breadth rather less.

Coast of Dunbar: very rare.

11. Ostrea obsoleta. *Obsolete Scallop.*

Pennant, pl. 64. f. 3—*Donovan*, pl. 1. f. 2.

Ostrea lævis. *Linn. Trans.* viii. pl. 3. f. 5.

Shell somewhat orbicular or inclining to oblong, with t equal valves, yellowish or purplish-brown, often marled rayed or streaked with paler or darker colors; the rface sometimes quite plain, or with a few obscure transerse wrinkles, but more generally marked on the lower rt with numerous rounded ribs, a smaller or greater umber of which are frequently more prominent and laced at unequal distances; and sometimes the upper lain department is separated from the marginal ribbed rt by a strong depressed transverse line, the whole surce being always marked with very numerous and most inute longitudinal lines, which run rather obliquely toards the sides, and are crossed by as fine transverse ones, iving it a kind of shagreened appearance under a glass: rs unequal; the larger one with four or five strong ansverse ribs, and crossed by longitudinal transverse rinkles; the other very small; inside glossy, yellowish rich purple, finely striate longitudinally, with the marin slightly notched: length an inch; breadth not quite so uch.

West of England, Scotland, and Dublin bay: *v. m.*

B. *Without ears, and the surface generally rough and uneven.* Oyster 13, 14.

12. Ostrea edulis. *Common Oyster.*

Lister, pl. 193, and 194—*Pennant*, pl. 65, lower fig.—*a Costa*, pl. 11. f. 6—*Dorset Cat.* pl. 11. f. 6—*Linn. rans.* vi. pl. 18. f. 9, 10.

Shell more or less orbicular, but subject to much variaon of form size and bulk, often distorted and misshapen,

rugged with plaits or scales irregularly folding over each other, sometimes only transversely scaly: valves unequal, one of them flat and entire, the other very convex; inside pearly white: beaks rather oblique, with a row of small tooth-like knobs on each side: color generally dull brown.

Banks and beds at low water mark. *v. v.*

13. Ostrea parasitica. *Parasitical Oyster.* Fig. 8.

Shell somewhat orbicular, or inclining to oblong, flattish, smooth and rather glossy, very obscurely wrinkled transversely, of a paler or darker chocolate-brown color, sometimes inclining to yellowish-brown, with irregular reddish-brown longitudinal waved lines disposed in the manner of loose tufts; sometimes there is a single whitish stripe from the hinge to the margin: beaks central, nearly straight; inside glossy-white, purplish towards the hinge, with a few denticulations on each side the hinge: diameter about an inch and a half.

We find this species not unfrequently attached to the claws of crabs, in Devonshire, and in Ireland on floating timber, and even on one another. Its habits therefore and general appearance incline us to think it quite distinct from the common oyster. *v. v.*

PATELLA. *LIMPET.*

Shell with a single valve, more or less conical and shaped like a bason, and generally without spire.

A. *Furnished with an internal appendage or partition,* 1, 2.

B. *With the crown entire,* 3 to 16.

C. *With the crown perforated,* 17 to 20.

A. *Furnished with an internal appendage or partition,* 1, 2.

1. Patella Chinensis. *Chinese Bonnet.* Fig. 29, 30.
Lister, pl. 546. f. 39—*Montagu,* pl. 13. f. 4.
Patella albida. *Donovan,* pl. 129.

Shell

Shell thin, semitransparent, white or yellowish-white but not glossy, flat, thin, orbicular and entire at the margin, about which it is often a little rough with circular rows of minute tubercles, and rising from the centre into a conic-pointed crown, which appears to consist of a single protuberance upon the top of which is a mammillary point, which in perfect specimens forms a single volution: inside smooth, glossy-white, furnished with a broad flat thin appendage, which is placed obliquely near one side, and a little twisted spirally: length about half an inch; not so much in height.

On the inside of oyster-shells, in the west of England, and Dublin bay. *v. v.*

2. Patella orbiculata. *Orbicular Limpet.*

Walker, pl. 1. f. 16.

Shell orbicular, flat, opake, white, with the margin regularly toothed all round: crown central: inside with a transverse partition in the middle: minute.

On the Sandwich coast; very rare.

B. *With the crown entire*, 3 to 16.

3. Patella vulgata. *Common Limpet.*

Lister, pl. 535. f. 14—*Pennant*, pl. 92. f. 1—*Da Costa*, pl. 1. f. 1, 2, and 8—*Donovan*, pl. 14—*Dorset Cat.* pl. 23. f. 1, 2, and 8.

Shell with fourteen or more raised tubercled ribs and intermediate fine lines, forming as it were obsolete angles which cause the margin to be indented, generally conic, but often flattish: color rufous brown, purplish, reddish or horn-color, often dull white with a plain margin when worn, and of an oblong or roundish shape: crown nearly central and more or less elevated; inside glossy, white, flesh-color, blue, purplish, or horny, often iridescent and beautifully radiate with yellow and chesnut; the bottom white or blueish-white, and generally opake: length reaching to two inches, and one and a half in height.

This shell puts on so great a variety of appearances, that it is impossible minutely to pourtray them all: sometimes it is extremely conic, often much depressed; sometimes strongly tubercled longitudinally, with intermediate fine smooth lines; frequently appearing as if finely and regu-

larly striate. On the rocks between the Pigeon-house and the light-house, in Dublin bay, is a fine variety, exactly answering to the Patella cærulea of Linné, being of a blackish color on the outside, with numerous unequal striæ, and the margin slightly jagged; the inside of an uniform rich iridescent blue; its diameter and elevation about an inch and a half; and no other variety is found on the same spot.

Adhering to rocks and stones. *v. v.*

4. Patella intorta. *Tubercled Limpet.*

Pennant, pl. 93. f. 2—*Donovan*, pl. 146.

Shell oval, convex, semitransparent, rufous-brown, with more than twenty equidistant tubercled ribs and alternate smaller ones, some of the tubercles nearly black: crown near one end, often worn flat, and turning downwards; inside pale rufous-brown, with the circumference oblong and the margin slightly indented by the ribs: length three-quarters of an inch; breadth about half an inch; height less.

Western coast, and North Britain: rare. *v. m.*

5. Patella virginea. *Rayed Limpet.*

Dorset Cat. pl. 14. f. 11.

Patella parva. *Donovan*, pl. 21. f. 2—*Da Costa*, pl. 8. f. 11.

Shell thin, nearly transparent, oval, a little obliquely conic, blueish-grey or horn-color tinged with purple, often covered with a dark skin, very obscurely ribbed longitudinally and wrinkled transversely, marked with purplish-red lines radiating from the crown to the margin; these rays are broader or narrower, sometimes undulate, or running into each other in a chain-like manner, often visible only at the margin, but mostly so on the inside: crown placed near the margin, obtusely pointed, and generally pale or greenish at the tip, and leaning a little towards the shorter side; inside smooth, glossy, purplish, with the margin obscurely indented: length three-eighths of an inch; breadth a quarter of an inch; height hardly as much.

Dead shells become white, with only the traces of two lines near the beak, placed like the letter V inverted.

Adhering to Fuci: *v. v.*

6. Patella

6. Patella pellucida. *Blue-rayed Limpet.*

Lister, pl. 543. f. 27—*Pennant*, pl. 93. f. 4, right hand middle fig.—*Da Costa*, pl. 1. f. 5—*Donovan*, pl. 3. f. 1—*Dorset Cat.* pl. 23. f. 5.

Shell very thin and transparent, oblong-oval, regularly convex, quite smooth, of a pale yellowish-horny color and nearly the same inside: crown obscure, near one end, marked with a dark blue or purple spot, from which emanate from three to seven dotted lines of the richest azure blue, but generally four in number, and extending longitudinally towards the opposite margin: length hardly three quarters of an inch; breadth about half as much.

On the leaves and stalks of Fuci. *v. v.*

7. Patella lævis. *Smooth Limpet.*

Lister, pl. 542. f. 26—*Da Costa*, pl. 1. f. 6.

Patella pellucida. *Pennant*, pl. 93. f. 4, left hand middle, and lower fig.—*Dorset Cat.* pl. 23. f. 6.

Patella cærulea. *Montagu, Suppl.* p. 152.

Shell oval, rather thick and nearly opake, smooth, or faintly ribbed longitudinally and finely striate concentrically, sometimes flattish with the crown near the margin, and sometimes rather conical with the crown more central, often marked with rays of blueish red or brown, which are sometimes very few in number, but frequently surrounding the whole shell: color varying from blackish-brown to reddish or pale horn-color: crown obtuse, with mostly an impressed circular line a little below the tip, giving it the appearance of having a smaller shell placed on the top of the larger; inside opalaceous, reflecting various shades of white blue purple or red, especially about the margin which is generally thick: diameter about an inch.

Variety. With a black spot on each side of the crown.

Patella bimaculata. *Montagu*, pl. 13. f. 8.

It has often been a matter of surprise to us, that these two last species should have been consolidated into one; as in no single instance have we been able to discover the slightest trace of approximation or transfer from the P. pellucida into this last, by age or any accidental circumstance, either in general appearance, color, consistence, formation

of the crown, or inside markings. The error originated in Da Costa, who considered the P. lævis to be the old shell of P. pellucida: and this error has been more or less confusedly continued ever since. Even Mr. Dillwyn, who makes them distinct, has quoted the figure 6, in Da Costa's first plate, and which is the P. lævis, for P. pellucida; and Donovan's plate 3. fig. 1. which is P. pellucida, for P. lævis.

On the leaves of Fuci. *v. v.*

8. Patella lacustris. *River Limpet.*

Lister, pl. 141. f. 39—*Da Costa*, pl. 2. f. 8—*Donovan*, pl. 147—*Dorset Cat.* pl. 22. f. 8.

Shell oval, rather conic, very thin, transparent, horn-color, covered with a dusky green or dark rough skin, white when dead, very obscurely striate longitudinally with often a few transverse wrinkles, glossy within and white or blueish: crown not quite central, slightly hooked, ending in an obtuse point: length three-eighths of an inch; breadth a quarter; height not a quarter.

In rivers, attached to stones. *v. v.*

9. Patella Extinctorium. *Extinguisher Limpet.*

Shell exactly conic, brownish horn-color and rather rough, semitransparent, with a few irregular circular wrinkles; the point rather obtuse, quite erect and central, without curvature or apparent volution; the base orbicular, with the margin thin and plain; inside glossy brownish-white: diameter of the base the tenth of an inch; height about a third more than the diameter.

A living specimen of this curious and very distinct minute Patella we took from a mass of the Serpula tubularia, trawled up at Torbay. Its figure exactly resembles a common extinguisher: and independently of its regularly conic shape and comparatively contracted base, it may be known from the P. Chinensis by the want of internal appendage or lip. *v. v.*

10. Patella oblonga. *Oblong Limpet.*

Donovan, pl. 150—*Dorset Cat.* pl. 18. f. 20*, and pl. 22. f. 8. a.

Shell oblong, contracted in the middle, very thin and transparent,

transparent, horn-color, mostly covered with a greenish skin, smooth or very faintly wrinkled transversely, glossy within: crown nearly but not quite central, small, pointed, slightly hooked in an oblique direction: length a quarter of an inch; breadth an eighth.

On aquatic plants. *v. v.*

11. Patella tricornis. *Three-horned Limpet.*

Shell conic, opake, brownish-white, rather rough but not striate nor wrinkled, covered with a brown skin which mostly fringes the margin: crown near one end, divided into three white points or tooth-like projections, which are not close together but placed in a triangular or irregular manner across the shell, and nearly erect: base orbicular; the inside white, polished, with two tubercular projections corresponding with the lateral points of the crown: diameter and height about the tenth of an inch.

A few specimens of this singular shell we found among the fine sand at Portmarnock, near Dublin; and have since taken it alive, in Devonshire, from the Serpula tubularia. At first we had considered them as an accidental lusus; but a closer examination and comparison with such as are in any way allied to them, as P. virginea, P. lacustris, and P. oblonga, have convinced us of their identical distinction. The crown appears to be spread across the shell, and is deeply cloven into three very distinct tooth-like points, which have a slight inclination towards the larger side of the shell, and are sometimes placed in a triangular position. They are much stronger, and more orbicular at the base than P. virginea, and the inside is of a clear polished white. *v. v.*

12. Patella antiquata. *Antiquated Limpet.*

Lister, pl. 544. f. 30, and 31—*Montagu*, pl. 13. f. 9.

Patella Mitrula. *Dorset Cat.* pl. 22. f. 7. a.

Shell thick, strong, nearly opake, white, conic, marked with concentric scale-like wrinkles, which are mostly very strong towards the margin and incumbent on each other: crown sometimes pointing a little obliquely, sometimes extended and very slightly recurved, often obtuse, and nearer one end; the base roundish-oval: diameter about an inch.

Weymouth, and the south of Ireland: rare. *v. m.*

13. Patella

13. Patella Ungarica. *Hungarian Bonnet.* Fig. 76.

Pennant, pl. 93. f. 1—*Da Costa*, pl. 1. f. 7—*Donovan*, pl. 21. f. 1—*Dorset Cat.* pl. 23. f. 7.

Shell conic, thin, semitransparent, white rufous or flesh-color, often covered with a rough brown skin which reaches beyond and forms a fringe round the margin, finely striate longitudinally and marked with a few transverse elevations: crown much curved inwards and twisted into two or three spiral volutions, which incline a little to one side; inside glossy, white or flesh-color; the base very large, round or a little irregular in its circumference, with the margin often slightly notched: diameter sometimes two inches or more, and as much in height.

Attached to rocks and shells. *v. v.*

14. Patella militaris. *Military Bonnet.*

Lister, pl. 544. f. 32—*Montagu*, pl. 13. f. 11—*Donovan*, pl. 171—*Dorset Cat.* pl. 22. f. 7.

Shell conic, rather strong, semitransparent, white or covered with a rough brown skin, regularly striate both longitudinally and transversely so as to give the surface a reticulate appearance: crown much turned inwards, twisted into two or three spiral volutions which incline much to one side, inside glossy white, with the base roundish, and the margin very entire: diameter and height half an inch.

Western coasts, and North Britain. *v. m.*

15. Patella distorta. *Distorted Limpet.*

Linn. Trans. xi. pl. 13. f. 5.

Shell rugged and distorted, without any regularity of form, rather flat, with an irregular margin, brown both inside and out; the crown small, wart-like, and not central; inside not glossy, but apparently minutely granulate: diameter about half an inch.

In conformity with our plan of recording whatever has come to our knowledge upon this subject, more especially from the pen of Montagu, we have inserted the above description. It will, however, we understand, ultimately appear, upon better authority than our own, that it is the upper valve of an Anomia.

Found on stones, in the Shetland Islands, by Mr. Fleming.

16. Patella

la Fissura. *Slit Limpet.*

. 543. f. 28—*Pennant*, pl. 93. f. 3—*Da Costa*, *Donovan*, pl. 3. f. 2—*Dorset Cat.* pl. 23. f. 4.
ong, conic, brown or white, semitransparent, regular longitudinal ribs and transverse ones stices, toothed round the margin, where on one row fissure or slit which sometimes reaches way up the shell: crown nearly central, pointed inwards, but hardly forming a single volution: he base half an inch; breadth and height about h.
sandy coasts. *v. v.*

th the crown perforated, 17 to 20.

lla Apertura. *Open Limpet.*

, pl. 13. f. 10.
ong-oval, flattish, semitransparent, white with udinal brown streaks reaching half way up from with strong longitudinal tubercled ribs crossed cular ridges: crown recurved, the point small inwards so as occasionally to form a single vo- h is attached to the shell, and just below the nent of the volution is a rhombic perforation; oth glossy, with the circumference oval, and the edge by the ribs: length nearly a quarter height not half as much.
estern coasts: very rare. *v. m.*

lla Græca. *Cancelled Limpet.* Fig. 82.

l. 527. f. 2—*Pennant*, pl. 92. f. 3—*Da Costa*, *-Dorset Cat.* pl. 23. f. 3.
eticulata. *Donovan*, pl. 21. f. 3.
ck, opake, oblong-oval, very little conic, white wn, with strong longitudinal ribs of unequal d by transverse ones, giving a rather tubercled to some of them: crown not much elevated, er to one end, truncate, and furnished with an rforation; inside smooth, white, sometimes h brown or dull purple rays; the margin a little indented,

indented, and toothed: length about three quarters of an inch; breadth half an inch; height a quarter.

Western coasts, and Dublin bay. *v. m.*

19. Patella Zetlandica. *Shetland Limpet.*

Edinburg Encyclopædia, viii. p. 66. no. 17.

Shell oblong, conic, glossy white, transparent, furnished from the point to the margin with numerous equal tubercled ribs: crown much raised, nearly straight and central, truncate, not in the least curved, with an oval perforation which is beaded round the edge by the tubercled ribs; the base nearly round, undulate or beaded; inside glossy white: length hardly a line; height as much.

This beautiful minute species, which was first described, we believe, by Dr. Leach, as having been found among some small shells from Shetland, was discovered by Mr. Tardy, in the fine drifted sand from Portmarnock, in Dublin bay: it differs from the last, in being as long as it is broad, and in having both the base and the crown beaded round the circumference. *v. m.*

20. Patella Nubecula. *Red-rayed Limpet.* Fig. 81.

Lister, pl. 529.

Shell oblong-oval, sometimes a little contracted in the middle, semitransparent, a little convex, white with red or brownish-red rays which are broader or narrower, sometimes interrupted, and often not extending quite to the crown, with numerous obscure longitudinal ribs, and a few irregular transverse furrows which give it a rather rugged appearance towards the margin: crown not quite central, with an oblong perforation, round which is often a purplish ring; inside white, glossy, with a purplish ring round the perforation at the bottom; the margin plain: length five eighths of an inch; breadth and height about three-eighths.

These shells have been frequently brought to us, as having been dredged off the Land's End, on the Cornish coast; but it has not occurred to us, as yet, to find them ourselves. *v. m.*

PHOLAS. *PIDDOCK.*

Shell with two large primary valves, open at both ends, and several lesser ones about the hinge: teeth long, incurved, one in each valve on the inside.

1. Pholas Dactylus. *Prickly Piddock.*

Lister, pl. 433. f. 276, and App. pl. 19. f. 1, 2—*Pennant*, pl. 42. f. 1—*Da Costa*, pl. 16. f. 2—*Donovan*, pl. 118—*Wood*, pl. 13. f. 1, 2, 3—*Dorset Cat.* pl. 3. f. 2.

Shell very thin, white or with a ferruginous tinge, oblong-oval, sometimes distorted, ribbed longitudinally, and striate transversely in a fainter manner; the ribs on the larger end beset with numerous small concave spines, which towards the smaller end become thin scales: at the larger end is a vast oval gape in front, where the margins slope into a curve on each side, the edges of which are generally fringed with spines and reflected on the back; the smaller end elongated and gradually sloping into an obtuse rounded point, where is also a large gape: hinge reflected on the back, separated by transverse scaly partitions into from twelve to sixteen cells, which are covered with two oblong very thin plates or rather membranes connected lengthways, and supported by another triangular strong plate at the bottom; below the hinge is also another long narrow thin plate attached to the sides of each valve by a connecting membrane, and reaching nearly to the smaller end: teeth long, curved, flat and broad towards the top, where they are rounded and ribbed: length sometimes two inches, and six in breadth.

Burrowed in sandstone, wood, and clay. *v. v.*

2. Pholas parva. *Small Piddock.*

Montagu, pl. 1. f. 7, 8—*Pennant*, pl. 43. f. 1.

Shell oval, rough, white, striate transversely and longitudinally, except at the smaller end which is sometimes covered with a rough brown wrinkled skin; the larger end sloping into a beak like the last, and forming a very wide gape

gape when closed, rough with spinous excrescences, which decrease towards the smaller end where it is nearly smooth: hinge reflected, without cells, with a single oblong plate at the back, but none below the hinge; and on the internal margin of the hinge above the insertion of the tooth is a rounded knob or protuberance in each valve: length three quarters of an inch; breadth an inch and a half.

Burrowed in sandstone and clay. *v. v.*

3. Pholas candida. *White Piddock.* Fig. 79.

Lister, pl. 435. f. 278—*Pennant*, pl. 42. f. 2—*Donovan*, pl. 132—*Wood*, pl. 14. f. 3, 4—*Dorset Cat.* pl. 1. f. 12.

Shell very thin, oblong, white or yellowish-white, transparent, rounded and not sloping to a beak at the broader end where it is nearly closed when shut, rough with points all over except close to the cartilage on the back, with several rows of prickles on the broad end from the hinge to the margin: hinge smooth, white, reflected, without cells, with a single oblong somewhat curved strong plate on the back, but none connecting the valves below the hinge; teeth slender, curved, and in one valve only there is an additional tooth placed upon the interior margin of the hinge, which is pointed, curved towards the cartilage and leaning towards the elongated end, locking into a groove of the opposite valve: length three quarters of an inch; breadth an inch and a half. *v. v.*

Masses of rock, taken at the mouth of the river just below the town of Teignmouth in Devonshire, and inclosing vast numbers of these three species indiscriminately and collectively, are now before us while we are describing them. The writers who have succeeded Montagu do not seem to have well understood their peculiar differences, or to have distinctly discriminated them. The manner of their reticulation, as adopted by Linné, is by no means sufficiently clear to form intelligible specific distinction. *Ph. Dactylus* is at once known by the cells at the back of the hinge, a circumstance mentioned by Mr. Wood only, and when in a perfect state by the four dorsal valves, two of which cover the cells, the triangular one which supports these two, and the narrow elongated one beneath this last. *Ph. parva*, which in its outline, large frontal gape, and elongated beak, much

much resembles the former, is known by the want of cells on the back, by being furnished with only one lancet-shaped dorsal valve, and more especially by the rounded tubercles placed on the inner-margin of the hinge. These tubercles, from some misunderstanding of the exact meaning of Montagu, have been represented as supporting the teeth: "Cardinis dente ex tuberculo orto," *Maton and Rackett.* "Hinge with a tooth springing from a tubercle," *Wood.* "The teeth of the hinge issuing from a tubercle," *Dillwyn.* The teeth, however, are inserted under the inner margin of the hinge, as in the other species, and have no attachment or connexion whatever with the tubercles, which are seated on the centre of the margin and remote from the insertion of the teeth. *Ph. candida* is a much more delicate and transparent species, rounded at the top and without the sloping beaks, in consequence of which it has very little frontal-gape when closed; the transverse striæ are more regular and at remoter distances, visible on the inside, and not so strongly crossed by the longitudinal ones, by which means it is not so much echinated or spinous; the back, with its single dorsal valve and want of cells, is formed like Ph. parva; and its characteristic mark, independent of its outline, is a single sharp curved supplemental tooth seated on the middle of the hinge, in the left hand valve only, and locking into a groove of the opposite valve. Of this strong specific mark, neither Maton and Rackett nor Dillwyn have taken any notice; and Mr. Wood, in whose left hand figure this tooth is remarkably well represented, calls it a folded process, and asserts that it is found in both valves.

The philosophy of their natural history may probably be of no very difficult solution. The rock in which they are imbedded is a cementation of the finest sand and lime, of so very soft a substance when first taken from its bed, as to be easily cut with a knife into any form, and sufficiently absorbent to afford moisture for the purposes of life and their peculiar action. The animals themselves abundantly secrete a mild phosphoric solution, as may be seen by its illuminating in the dark whatever is moistened with it, sufficiently powerful to decompose the rock by the slow contact of their gradually increasing bulk. The atmospheric

air also seems to be occasionally necessary to this process, as they are always found in situations which are left dry for a short period by the recess of the lowest tides, its oxygene perhaps serving by its union with this secretion to form a phosphorous acid. In confirmation of this belief we have affixed them, when fresh taken, to a smooth piece of the same rock, by the frontal gape, occasionally moistening them with sea water; and in a few days have found, that at the place of contact an evident waste of substance had been made by the decomposition of the lime, and a deposition of sand in the finest grains. It may reasonably be supposed that all the borers of rocks and wood, even the Teredo, act in this manner by their peculiar and appropriate solvents.

4. Pholas crispata. *Curled Piddock.*

Lister, pl. 436. f. 279—*Pennant*, pl. 43. f. 2—*Da Costa*, pl. 16. f. 4—*Donovan*, pl. 62—*Wood*, pl. 15. f. 3, 4, and 5—*Dorset Cat.* pl. 3. f. 4.

The young shell.

Pholas candida. *Donovan*, pl. 69.

Shell strong, gibbous, somewhat oval, much rounded at one end and narrower at the other, and very open at both, whitish or rust-color, marked by a longitudinal furrow from the hinge to the margin, which divides the shell into two nearly equal parts; one of which is smooth, except a few transverse striæ; the other rough with strong transverse undulate or indented raised scale-like folds; inside white, with a longitudinal rib in the middle answering to the furrow on the outside: hinge smooth, white, forming a furrow on the back at the anterior end which is obliquely truncate: teeth long, flat, much curved: length nearly two inches; breadth almost three.

We have never been able to discover this species in its natural habitation, nor have we met with any one who ever had: the dorsal valve has consequently not been described by any writer. It is said to be imbedded in hard clay and limestone. Maton and Rackett, and Mr. Wood, have erroneously described the groove or furrow which divides the shell into two parts, extending from the hinge to the margin, as a transverse one. *v. m.*

5. Pholas

5. Pholas striata. *Striated Piddock.*

Donovan, pl. 117—*Wood*, pl. 16. f. 1, 2, 3, 4, and 8—*Dorset Cat.* pl. 1. f. 7.

Shell white, oblong or conic, rounded and obtuse at the larger end, which is rough with raised curved lines and nearly closed, the frontal margin folding back and forming a smooth surface around it; the narrower end gaping and striate both longitudinally and transversely: hinge with a somewhat heart-shaped plate at the back, the point of which is upwards, beneath which is a long narrow one connecting the valves; in front is a plate on each side the opening, and a third narrow one down the middle: teeth long, slender, curved: length half an inch; breadth nearly an inch.

Burrowed in the bottoms of ships, and floating timber. *v. m.*

At the close of this tribe we will take occasion briefly to record a very singular testaceous production, some time since found on the strand near Exmouth, by Mr. C. W. Loscombe, and now in the cabinet of the Rev. Dr. Goodall, provost of Eton College. It is of a ferruginous or rusty-brown color, extremely thin and fragile, in shape resembling the Pholas candida, closed at the larger extremity, and gaping at the other, where it is invested with a distinct circular appendage, completely inclosing the smaller extremity, and extending like a broad open ring beyond it. This supplemental ring appears to stand in the place of the dorsal valves which are wanting. It has not the prickly ridges at the larger end; but the back is rather flattened and strongly wrinkled, like that of the Pholas Dactylus. The internal conformation it was impossible to examine without the destruction of this curious and unique specimen; but from its general appearance it may be reasonably supposed to possess the hinge and the teeth of a Pholas. A beautiful plate of this most rare and unknown production has been engraved for Mr. Loscombe, by Mr. Sowerby; and in the present uncertainty as to its generic appropriation, its fortunate possessor denominates it Pholadidea Loscombiana.

PINNA. *NACRE.*

Shell with two valves, gaping at the larger end and fixed at the other by a beard of silky filaments: hinge without teeth, the valves being connected by the cartilage nearly the whole breadth.

It may be proper to remark here, that in this family, as in all the bivalves, we strictly adhere to our definition of the rule of measurement as to the length and breadth; that the length should be taken from the hinge to the opposite margin, and the breadth from the opposite sides or ends. If this rule be admitted with respect to the Solenes, some of which are only an inch in length and eight broad, no good reason can be assigned why it should not be preserved in this genus; although it has been usual to reverse it, and thus bring into confusion a definite and fundamental regulation.

1. Pinna ingens. *Great Nacre.*

Pinna lævis. *Donovan*, pl. 152.

Shell nearly triangular, dark horn-color, with irregular wrinkles running from the hinge to the margin, which often break into scaly plates especially towards the broader end, and sometimes crossed by a few obscure ridges from the broader to the pointed end, which are sometimes more distinct and form a few concave spines; the pointed end a little curved, and more or less of a changeable purple or green; inside smooth, glossy, perlaceous, breaking into laminated plates at the pointed end: length at the broader end from the cartilage to the margin often seven inches; breadth from the pointed to the broad end sometimes twelve inches.

Scotland, Devon, and Cove in Ireland. *v. v.*

2. Pinna pectinata. *Rough Nacre.* Fig. 11.

Pennant, pl. 72—*Da Costa*, pl. 16. f. 3—*Dorset Cat.* pl. 3. f. 3.

Pinna muricata. *Donovan*, pl. 10.

Shell thin, brittle, transparent, light horn-color, triangular,

lar, a little curved at the smaller end and obliquely rounded at the other, the pointed end colored with a mixture of changeable purple blue or green: from the broad to the pointed end run about eleven ribs, commencing on the cartilage side and extending over about two-thirds of the surface, leaving the other part marked only by curved striæ in an opposite direction; inside smooth, perlaceous: length three inches; breadth six or more.

Variety A. Smooth and without spines.

Variety B. Furnished with concave spines, especially along the ribs, which increase in size as they approach the larger end.

On the western coasts. *v. v.*

3. Pinna muricata. *Prickly Nacre.*

Montagu, pl. 5. f. 3.

Shell thin, brittle, semitransparent, flesh-color but darker at the pointed end which is quite straight, obliquely rounded at the broader end, with ten or twelve broad ribs running from the larger to the pointed end covering the whole surface of the shell, and marked with a few intermediate smaller ones at the pointed end; these ribs are furnished with a few concave spines, chiefly towards the broader end; length about two inches; breadth five or more.

On the Dorsetshire coast; rare. *v. m.*

SERPULA. *CREEPER.*

Shell with a single valve, tubular, variously shaped, sometimes divided by imperforated internal divisions at unequal distances.

A. *Attached, and spirally twisted,* 1 to 9.

B. *Attached, and irregularly twisted,* 10 to 15.

C. *Detached, and curved or twisted,* 16 to 20.

D. *Detached, and bottle-shaped,* 21 to 29.

A. *Attached, and spirally twisted,* 1 to 9.

1. Serpula spirorbis. *Spiral Creeper.*

Lister, pl. 553. f. 5—*Pennant*, pl. 94. f. 1—*Da Costa*, pl. 2.

pl. 2. f. 11—*Donovan*, pl. 9. f. 1, 2—*Dorset Cat.* pl. 22. f. 11.

Shell white, opake, orbicular, regular, spires four or five, smooth or very slightly wrinkled, rounded and concave on the upper part and slightly grooved round the volutions, beneath flattish and somewhat perforated: aperture orbicular, sometimes erect or looking upwards, and sometimes one or two of the volutions turn a little upwards: diameter the eighth of an inch.

On stones, shells, and sea-weed. *v. v.*

2. Serpula Spirillum. *Twisted Creeper.*

Dorset Cat. pl. 19. f. 27.*

Shell glossy white, semitransparent, orbicular, regular: spires two or three, slightly wrinkled and mostly placed laterally, the base not at all spread but quite cylindrical, with a central perforation which sometimes goes quite through the shell: aperture often turning a little upwards, exactly circular and not thinner than the rest of the shell, but appearing as if regularly cut off, with the volutions ascending or rising one upon another: diameter about a line.

Variety. With the volutions reversed.

Serpula sinistrorsa. *Montagu*, p. 504—*Walker*, f. 13, 14.

On Fuci, and Sertulariæ. *v. v.*

3. Serpula minuta. *Minute Creeper.*

Montagu, p. 505. no. 9.

Shell dirty white, opake, orbicular: spires two or three, turning in a contrary direction, rounded at the base, transversely wrinkled, with sometimes a slight circular ridge running spirally along the back formed by a small furrow on each side: very minute.

On the Corallina officinalis. *v. v.*

4. Serpula granulata. *Granular Creeper.*

Donovan, pl. 100.

Shell white, opake, clustered, round, not quite regular: spires two or three, slightly perforated in the middle, with three raised ribs round the top, and wrinkled transversely

versely especially in the furrows between the ribs: aperture round: diameter the eighth of an inch.

Variety. With two brown circular bands on the top between the ribs: about half the size, and found among the roots of Fuci and Corallines.

On stones and shells. *v. v.*

5. Serpula heterostropha. *Irregular Creeper.*

Montagu, p. 503. no. 7.

Shell strong, dull dirty white: spires three, reversed, with three ribs running circularly round them, and roughly wrinkled transversely; the base flat and somewhat spreading. It differs from the last, in having the volutions in a contrary direction, the base a little spread, and the ribs not so much raised: it is also about half the size only.

On shells, and sea-weed. *v. v.*

6. Serpula carinata. *Ridged Creeper.*

Montagu, p. 502. no. 4.

Shell dull white, opake, regular: spires three or four, the outer one with a keel-like ridge on the top, perforated in the middle, a little spreading at the base: aperture nearly circular. It differs from S. spirorbis in the angular shape of the outer volution; and from S. trlquetra in being irregularly spiral: diameter half a line.

On old shells. *v. v.*

7. Serpula corrugata. *Rough Creeper.*

Montagu, p. 502. no. 5.

Shell white, rather glossy, strong, regular: spires two or three, rough with transverse wrinkles, perforated in the middle, and very little spreading at the base. It differs from S. Spirillum in not exposing so much of the interior volutions, a small portion of the second only being visible; diameter the eighth of an inch.

On schistose rocks, *v. v.*

8. Serpula lucida. *Glassy Creeper.*

Serpula reflexa. *Linn. Trans.* v. pl. 1. f. 31, 32.

Shell white, transparent, quite smooth and with a glassy lustre; spires two or three, reversed, sometimes placed laterally,

laterally, sometimes turning on one another with the aperture pointing upwards, and sometimes the volutions are not joined together: diameter half a line.

On Sertulariæ. *v. v.*

9. Serpula cornea. *Linn. Trans.* v. pl. 1. f. 33 to 35.

Shell brownish horn-color, transparent, rounded, with three-volutions: minute.

An obscure species.

B. *Attached, and irregularly twisted,* 10 to 15.

10. Serpula vermicularis. *Twining Creeper.*

Pennant, pl. 94. f. 3—*Da Costa,* pl. 2. f. 5—*Dorset Cat.* pl. 22. f. 5.

Shell white or reddish, opake, quite cylindrical and not spreading at the base, rugged with transverse wrinkles, gradually tapering to a point, variously curved and entwined in all directions, and attached its whole length.

Variety A. Much smaller, and more grouped and entwined together, of a clear and rather glossy white, and very slightly wrinkled transversely.

Serpula intricata. *Pennant,* pl. 94. f. 2.

Variety B. With a more or less elevated rib along the middle of the back, but differing from S. triquetra in not being in the least spreading at the base.

Serpula contortuplicata. *Linné, Syst.* p. 1266.

Variety C. With the aperture turning in a reversed direction.

Serpula reversa. *Montagu,* p. 508. no. 11.

On shells, crabs, and stones. *v. v.*

11. Serpula triquetra. *Triangular Creeper.*

Pennant, pl. 94. f. 3—*Da Costa,* pl. 2. f. 9—*Donovan,* pl. 95—*Dorset Cat.* pl. 22. f. 9.

Shell white or tinged with red, opake, attached its whole length, with an acute ridge down the back and a little spread on the sides at the base, giving it a triangular appearance, rather rugged with transverse striæ, sometimes running nearly straight, but generally coiled and twisted in every direction: aperture round, even and truncate; sometimes

the ridge on the back is obsolete, and frequently
wo other small ridges, one on each side the dor-
n.

Dark olive green with a short space about the
ear white or tinged with red; the dorsal ridge
' the strong transverse ridges, and produced in
white tooth-like projection.
s and other substances. *v. v.*

ula complexa. *Complex Creeper.*

ake, perfectly cylindrical and of equal diameter
ength, not spreading at the sides, slightly wrin-
'ersely and a little flexuous, of a dirty white or
, growing together in numerous compact en-
ups of from five to fifty in each, which divaricate
it or curved line, and attach themselves to other
) as to form altogether a sort of reticulate mass,
ices of which are about a quarter of an inch in
and which again branch out both in extent and
minating at length in close-set flat-topped tufts
; minute honey-combs: those which do not reach
ut exhaust themselves in the formation of the
ire attached at both ends, and often detached and
; the middle; and sometimes one or more coa-
ther with others in an anastomosing manner,
very minute net-work: their length individually
inch to an inch and a half; and their diameter
xceed that of the very finest thread.
of this beautiful and coral-like species, entwined
ike clusters of minute serpents, and supported
:h other, are occasionally but rarely dredged up
'onshire coast. Our largest specimen, consisting
ousands of individuals, measuring seven inches
wide, and four in height, hardly weighs three
nd from the appearance of the general base
ave been affixed to a rock under the ocean. A
nent was pointed out to us by Mr. Loscombe, as
represented at plate 10. fig. 18. of Humphrey's
sta's Conchology, but without description.
from S. glomerata in being smooth. *v. v.*

13. Serpula

13. Serpula tubularia. *Tubular Creeper.* Fig. 84.

Shell opake, white or with a flesh-color tinge, cylindrical, a little tapering and slightly wrinkled transversely; the larger end detached and elevated above the surface to which it is affixed, sometimes in a quite erect direction, but generally rather obliquely, and often for nearly half its length; the smaller end attached and not spreading at the sides, flexuous or variously twisted; the margin of the aperture mostly reflected, with sometimes a broad and somewhat reflected circular ridge a little below the margin, as if one tube grew out of another, like the Lichen pyxidatus: length four or five inches; diameter at the larger end a quarter of an inch.

Variety. With the lower part buried in sponge and exactly triangular.

Groups of this noble Serpula, fancifully disposed in clusters of fifty or sixty together, and affixed to large shells, bottles, branches of wood, fragments of rock, and other substances, are dredged up on the Devon coast, and of much smaller size in Dublin bay. The variety is not a fourth part the size, always found in sponge, and uniformly preserves its triangular appearance on the lower part. It may probably be distinct. *v. v.*

14. Serpula rugosa. *Rough Creeper.*

Shell opake, dull white or with a reddish tinge, very rugged transversely, taper with a strong raised jagged longitudinal ridge; the larger end erect or a little sloping, and detached from the surface to which it is affixed for about a third part of its length; the smaller end attached and not spreading at the sides, flexuous and variously twisted: aperture orbicular, with a protruding tooth-like point formed by an elongation of the dorsal ridge; not half the size of the last.

We frequently find this species in irregular masses lodged in the soft red sandstone about Teignmouth, and in the forsaken chambers of the Venus perforans. From S. tubularia it differs in size, in its very rugged surface, and in the strong raised dorsal ridge: from S. triquetra, in being always detached at the larger end, and in not being spread at the sides where it is attached. *v. v.*

15. Serpula

erpula Arundo. *Reed Creeper.*

opake, yellowish-white, cylindrical but very gra-
ipering to a point, finely striate circularly, fixed
naller end only for the space of about half an inch,
jecting forwards in a more or less straight or undu-
anner, sometimes but seldom a little curved or
: length often seven or eight inches; breadth at
er end hardly a quarter of an inch.
reed-like species, so different in its solitary and pe-
anner of growth, being fixed at the very extremity
d probably stretching out in an horizontal direc-
not uncommonly dredged up on the Devonshire
nd is perhaps an inhabitant of quiet waters, shel-
' rocks and subject to little agitation, whence it
occasionally broken or torn off. The point by which
d is strongly marked by the surface being flattened
ide. *v. v.*

Detached, and curved or twisted, 16 to 20.

erpula Seminulum. *Grain-like Creeper.*
er, f. 1—*Dorset Cat.* pl. 19. f. 31.
la ovalis. *Linn. Trans.* v. pl. 1. f. 28 to 30.
glossy white or with a ferruginous tinge, opake,
l, composed of three and rarely four compartments;
rior one varying much in size and shape, generally
metimes linear, or more or less inclining to orbicu-
outer ones defined by a depressed line, and trans-
wrinkled: aperture compressed, half-moon shaped:
r the tenth of an inch.
ie sand. *v. v.*

erpula subrotunda. *Roundish Creeper.*
er, f. 4.
glossy white, opake, rather flat, nearly orbicular,
ee compartments; the middle one raised above the
n the upper side, flat on the under side: aperture
ngular, edged with yellow when fresh: diameter
h of an inch.
e sand. *v. v.*

erpula oblonga. *Oblong Creeper.*
gu, pl. 14. f. 9.

Shell glossy white, opake, rather flat, oblong-oval, with three compartments; on one edge is a single longitudinal suture apparently dividing it into two parts; on the other side a faint depression investing the middle compartment which is more raised, and separating it from the outer ones: aperture produced into a very short neck, oval and edged with yellow: length not half a line.

In fine sand: very rare. *v. m.*

19. Serpula bicornis. *Two-horned Creeper.*

Walker, f. 2.

Shell glossy white, opake, flattish, somewhat oval, smooth on the upper side, striate longitudinally from the aperture on the other: aperture contracted, small, orbicular: length a line.

Variety. Perforated in the centre.

Walker, f. 3.

In fine sand: very rare. *v. m.*

20. Serpula incurvata. *Curved Creeper.*

Walker, f. 11.

Shell white, semitransparent, smooth, cylindrical, straight, but curved at the smaller end into three close volutions or compartments: length hardly a line. It resembles the Nautilus semilituus, but is perfectly smooth and cylindrical, and has neither syphon in the aperture, nor internal cells nor joints.

Variety. With a single volution at the end, and pervious.

Walker, f. 12.

In fine sand: very rare. *v. m.*

The three first species of this subdivision are evidently distinct from each other in the form of the aperture, which never interchangeably varies, although Mr. Dillwyn has united them; the fourth he has omitted altogether.

D. *Detached, and bottle-shaped,* 21 to 29.

21. Serpula lactea. *Egg Creeper.*

Walker, f. 5.

Shell thin, transparent, egg-shaped but a little flattened, with generally four milky lines separating the compartments,

ments, and an opake white border round the shell: length alf a line.

In fine sand. *v. m.*

22. Serpula striata. *Flask Creeper.*

Walker, f. 6.

Shell glossy white, transparent, somewhat oval, with a ong slender neck, and marked with opake longitudinal ines: aperture small, orbicular. In shape it resembles an il-flask: length not half a line.

In fine sand. *v. m.*

23. Serpula globosa. *Bottle Creeper.*

Walker, f. 8.

Shell white, transparent, smooth, globular, with a very hort hardly produced neck, terminating in a small round perture: it differs from the last in being destitute of lines nd in the mouth not being lengthened: its size is rather :83.

At Sandwich: very rare.

24. Serpula lævis. *Decanter Creeper.*

Walker, f. 9.

Shell blueish-white, very transparent like glass, with a ng cylindrical neck: size of the last, from which it dif- rs, in its glassy lustre, more oblong shape, and length- ned mouth.

In fine sand. *v. m.*

25. Serpula marginata. *Jar Creeper.*

Walker, f. 7.

Shell glossy white, of a flattish globular form, surrounded r a single raised longitudinal rib: mouth hardly produced: ze of S. globosa, from which it differs, in its more flat- ned shape, and the raised longitudinal ridge by which it surrounded.

In fine sand. *v. m.*

26. Serpula perlucida. *Water-bottle Creeper.* Fig. 23.

Montagu, pl. 14. f. 3.

Shell glossy-white, transparent, somewhat globular, ta-

pering to a long neck on the upper part, with six long dinal ribs placed at equal distances, and a small kn the base: length not the tenth of an inch.
In fine sand. *v. m.*

27. Serpula squamosa. *Wicker-bottle Creeper.*
Montagu, pl. 14. f. 2.
Shell white, globular, marked with transverse und lines like the scales of a fish, or a bottle covered wicker-work: mouth a little produced: length half a
In fine sand. *v. m.*

28. Serpula Retorta. *Retort Creeper.*
Walker. f. 10.
Shell white, opake, globular, but often compressed a depression on each side near the centre, and a long n cylindrical neck which is curved back: length half a l
In fine sand.

29. Serpula Urnæ. *Urn Creeper.* Fig. 21.
Montagu, pl. 14. f. 1.
Shell glossy white, semitransparent, smooth, some globular, but sloping rather suddenly like an urn i short conic neck, with a slender appendage or knob base: length hardly a line. *v. m.*
In fine sand. *v. m.*

SOLEN. *RAZOR-SHELL.*

Shell with two valves, oblong, open at ends: hinge with a reflected subulate tooth or not inserted into a groove in the opposite val

A. *With the hinge at one end*, 1 to 6.

B. *With the hinge nearly central*, 7 to 13.

1. Solen Siliqua. *Pod Razor-shell.*
Lister, pl. 409. f. 255—*Pennant*, pl. 48. f. 1—*Da* pl. 17. f. 5—*Donovan*, pl. 46—*Wood*, pl. 26. f. 1, 2— *set Cat.* pl. 2. f. 5—*Linn. Trans.* vi. pl. 14. f. 10.
Shell straight, slender, a little obliquely sloping

end and rounded at the other, covered with an olive-brown skin which has variously disposed chesnut marks, beneath which it is greyish-white with purplish streaks: valves a little convex and rounded, divided diagonally into two very acute triangles, the anterior triangle transversely striate, the posterior one with longitudinal striæ and purplish bands: down the back from the hinge is a flattish space in each valve, suddenly sloping and forming a kind of ridge, and giving the back margin a keel-like appearance; inside white, with a single tooth and lateral rib in one valve, locking between two teeth in the other valve, which has also an inclined lateral laminar rib: length from margin to margin an inch; breadth from one open end to the other seven or eight inches.

Variety. A little curved, like S. Ensis, but is distinguished by the teeth. *Lister*, pl. 413, lower fig.

On most sandy shores. *v. v.*

2. Solen Novacula. *Whetstone Razor-shell.*

Montagu, p. 47.

Shell straight, slender, in every respect resembling the last, except in the structure of the hinge, which has one strong curved blunt tooth in each valve, turning contrary ways and locking into each other, and without the lateral laminar ribs.

On the sandy shores near Laugharne in Carmarthenshire: we have also found shells which answer this description, but of much smaller size, in Dublin bay: and considering the great fragility of the teeth of this family, we have some doubt of its specific identity. *v. m.*

3. Solen Vagina. *Sheath Razor-shell.*

Lister, pl. 410. f. 256, and pl. 1056. *f.* 5—*Pennant*, pl. 49. f. 1—*Wood*, pl. 27. f. 1—*Dorset Cat.* pl. 4. f. 8.

Solen marginatus. *Donovan*, pl. 110.

Shell straight, slender, covered with an orange-yellow skin which is often marked with deep brown blotches, and sometimes extends as much as half an inch beyond the margin at the end opposite the hinge, under which it is of a pale orange yellow, very faintly divided diagonally and striate like S. Siliqua, but without the ridge and furrow

running down the back from the hinge: valves convex, one end obliquely cut off, with a strong indenture or ligature just beneath the edge: hinge with a single tooth in each valve, closing one upon the other, the upper one broad and slightly notched at the base: length three quarters of an inch; breadth nearly five inches.

On sandy coasts, but rather rare. *v. v.*

4. Solen Ensis. *Scimitar Razor-shell.* Fig. 61.

Lister, pl. 411. f. 257—*Pennant*, pl. 48. f. 2—*Donovan*, pl. 50—*Wood*, pl. 28. f. 1, 2—*Dorset Cat.* pl. 4. f. 3.

Shell curved, slender, thin, brittle, transparent, covered with a greenish horn-colored skin, spotted with brown, diagonally divided; one of the triangles marked with pale purplish and whitish bands; both the ends rounded; the cartilage margin sloping to a fine edge: hinge with a single tooth and lateral rib in one valve, and two in the other with a grooved or double rib: length about half an inch; breadth four inches. Young shells are nearly straight.

Mr. Dillwyn says that there are two teeth in each valve, differing in this respect from all other authorities, and from the fact itself. But Mr. Dillwyn sometimes writes carelessly. He has quoted Mr. Wood's figures 2, 3, and 4, of the plate 34, both for Solen minutus, and Solen variegatus: and for a figure of this shell, the S. Ensis, he has referred to Mr. Wood's plate of the Mya nodulosa.

On most sandy coasts. *v. v.*

5. Solen pellucidus. *Transparent Razor-shell.*

Pennant, pl. 49. f. 2—*Donovan*, pl. 153—*Wood*, pl. 28. f. 3.

Shell slightly curved, oblong, thin, transparent, rounded at each end, and rather flattened, covered with a greenish-brown skin, striate transversely but not divided diagonally: hinge with a single tooth in one valve, locking between two in the other, and a slight lateral process in each: length a quarter of an inch; breadth nearly an inch.

It differs from the last, in not being nearly so wide in proportion to its length, and in not being diagonally divided with one of the triangles colored.

Cornwall, Sandwich, and Anglesea. *v. m.*

6. Solen

ı minutus. *Prickly Razor-shell.*

ı, pl. 1. f. 4—*Wood*, pl. 34. f. 5, 6.
præcisus. *Montagu*, pl. 4. f. 2.
long or inclining to oval, dull white covered with
rown skin, opake, striate and wrinkled trans-
runcate at the hinge end, and somewhat angu-
ate at the other, sometimes kidney-shaped; the
: quite equal, one of them projecting over the
ıe front margin except at the hinge end; each of
ı two rows of erect spines running from the beaks,
m along the back margin, the other sloping in an
anner to the middle of the side margin, giving
a somewhat angular edge: beaks close to the
end, prominent, pointed, with a broad impression
rupt slope under them; inside glossy white; in
a strong recurved obtuse tooth, in the other a
oth, with a deep cavity by the side near the end:
metimes nearly half an inch, and an inch in

ve before us some dozens of these shells, from
of an inch to an inch wide, collected both in En-
Ireland, from the roots of Fuci, Sertulariæ, and
asses of the Serpula tubularia; and can have no
pronouncing, that the Mytilus præcisus of Mon-
the Solen minutus, are specifically the same.
ated hinge end with the deep impression under
s, and the angular opposite side, caused by the
dge extending to the middle of the lateral margin,
ly marked in them all: and those which Mon-
considered as distinct, were such as had the teeth
orsal spines obscure or obliterated. *v. v.*

With the hinge nearly central, 7 to 13.

n strigilatus. *Currycomb Razor-shell.* Fig. 53.

pl. 416. f. 260—*Wood*, pl. 30. f. 1.
blong, a little convex, white or reddish, covered
il-green skin, rounded at both ends, but a little
at the cartilage side where it makes a slight slope
back, strongly marked with oblique somewhat
ised longitudinal lines for three-fourths of its

breadth, the larger end being without them; these lines are close together at the smaller end, but grow gradually more remote, appearing like laminæ not incumbent on each other; also marked with a few transverse antiquated striæ, and sometimes two pale rays from the hinge to the opposite margin; inside glossy white, with the margin straight: hinge not quite central, a little prominent at the edge, with a single thin reflected tooth in each valve, and a gibbosity under the cartilage; length nearly three-fourths of an inch; breadth an inch and three-quarters.

The specimen from which this description was drawn was found at Scilly, and is in the cabinet of Mrs. W. C. Loscombe, of Exmouth: it has also been found at Hoath in Ireland, by Mr. Tardy. *v. m.*

8. Solen Legumen. *Pod Razor-shell.*

Lister, pl. 420. f. 264—*Pennant*, pl. 49. f. 3—*Donovan*, pl. 53—*Wood*, pl. 28. f. 4, 5—*Dorset Cat.* pl. 4. f. 4

Shell oblong, nearly straight, a little tapering to one end which slopes at the edge like the thumb nail, white covered with a greenish or yellowish skin, finely striate concentrically: hinge nearly central, with two teeth in each valve one of them diverging, the diverging tooth of one valve cloven and terminating in a hook-like process pointing towards the cartilage; between the teeth is also a short white longitudinal rib, and another pointing towards the smaller end and running nearly close to and parallel with the back margin: length nearly three-quarters of an inch; breadth almost four inches.

Sandy shores of England and Ireland, but not common *v. v.*

9. Solen antiquatus. *Antiquated Razor-shell.*

Pennant, pl. 49. f. 4—*Donovan*, pl. 114—*Wood*, pl. 2 f. 3.

Shell oblong, thin, brittle, opake, white covered with yellowish-brown wrinkled skin, rounded at both end somewhat kidney-shaped or contracted in the middle the front margin, with a faint longitudinal impression fro the hinge which widens as it approaches the front margi causing by its edges two obscure divergent lines, strong

strin

striate concentrically about the ends, but nearly smooth in the middle and towards the hinge; inside glossy white: hinge not quite central, with the teeth projecting beyond the margin; in one valve a single subulate tooth, looking between two in the other, one of which is subulate, the other slightly cloven: length about an inch; breadth two and a half.

On the western coasts: rather rare. *v. v.*

10. Solen fragilis. *Brittle Razor-shell.*

Dorset Cat. pl. 4. f. 5—*Wood,* pl. 29. f. 4, 5.

Shell oblong, thin, brittle, transparent, white covered with a dark greenish skin, a little contracted in the middle of the front margin, rounded at both ends, with a faint red longitudinal stripe commencing from the hinge, growing broader and fainter, and at length disappearing towards the front margin; inside glossy white, with a raised longitudinal ridge from the hinge growing broader and obsolete towards the margin; hinge with a single tooth in one valve locking between two in the other: length nearly half an inch; breadth an inch and a half.

It differs from the last in being less, broader in proportion to its length, quite transparent, and especially in the raised longitudinal ridge on the inside.

Dorset coast, Scotland, and the North bull in Dublin bay. *v. m.*

11. Solen vespertinus. *Variable Razor-shell.*

Lister, pl. 417. f. 261—*Pennant,* pl. 50. f. 2, and pl. 38, lower fig.—*Wood,* pl. 33. f. 2, 3—*Dorset Cat.* pl. 5. f. 1.

Tellina variabilis. *Donovan,* pl. 41. f. 2.

Shell oblong-oval, opake, sometimes covered with a blackish-brown skin, pale straw-color with pale purple longitudinal rays, often yellowish about the beaks, rounded at the smaller end, a little truncate and sloping at the other, and striate concentrically; inside glossy yellowish-white, with often a faint appearance of the outer rays: hinge with a single cloven tooth in one valve and a hollow on each side; in the other valve two teeth, one of which is cloven: length an inch or more; breadth above two.

On the western coasts, and Dublin and Bantry bays. *v. v.*

12. Solen

12. Solen diclivis. *Sloping Razor-shell.* Fig. 80.

Lister, pl. 421. p. 265.

Shell oblong, thin, semitransparent, white with a mixture of reddish white towards the ends, covered with a dark brown skin, irregularly striate or wrinkled transversely, rounded and of nearly equal diameter at both ends, considerably declining from the beaks on both sides towards the back margin, but more so at the cartilage end where there is a slight indenture under the beak: the front margin quite straight and even: beaks nearly central, small, pointed; inside white polished: teeth strong, two in each valve, one of them concave, and in one valve one of them is much divaricated; under the cartilage is also a strong prominent gibbosity extending beyond the margin: length three-quarters of an inch; breadth two inches.

Two specimens of this species, so eminently distinct from all which have been previously described, both in the slopes, teeth, and perfectly straight front margin, we observed in the cabinet of Mrs. W. C. Loscombe of Exmouth, who obligingly favored us with one of them: they were found in Scilly. *v. m.*

Lister's figure is an excellent one, which Gmelin has quoted for S. Cultellus; but it is so very unlike the figures which Mr. Wood has given of that shell, that both himself and Mr. Dillwyn have omitted it.

13. Solen squamosus. *Scale Razor-shell.*

Montagu, p. 565.

Shell nearly orbicular, very flat thin and transparent, white, most minutely punctured all over, with a few concentric ridges especially about the margin; inside smooth glossy white, with obscure striæ radiating from the hinge, and rather more opake at the margin: beaks small, pointed, central, not inclining to either side: teeth two, erect, diverging each side, exteading beyond the margin, a depression or furrow on the margin dividing each tooth into two plates almost to the beak where they are united and form an acute angle: length four lines; breadth half an inch.

One valve only of this singular shell was found by Montagu, in Salcombe bay, who observes that it was as clear and pellucid as the Bulla aperta, and resembled a fish scale.

STROMBUS,

STROMBUS. *SCREW-SHELL.*

l with a single valve, spiral: aperture end-
a canal leaning to the left, and the outer-
e or less expanded.

rombus Pes Pelecani. *Pelecan's foot.* Fig. 50, 51.
, pl. 865. f. 20, pl. 866. f. 21. b, and pl. 1059. f. 3—
, pl. 78—*Da Costa,* pl. 7. f. 7—*Donovan,* pl. 4—
t. pl. 15. f. 7.
tapering to a fine point, finely striate transversely,
rey, pale red or chocolate brown: spires ten, with
f tubercles round each; the larger volution with
sometimes three smaller rows, and another minute
ad the line of junction: aperture very narrow; the
much expanded into three principal angular points,
them ribbed along the back by a strong line con-
from the rows of tubercles, and marked with a cor-
ing groove underneath; and at the end of the third
is a fourth small angular point: canal finely
bending a little inwards, with a groove down the
n the inside and corresponding rib on the outside,
arp wing-like reflected process each side, giving it
late appearance; inner-lip much spread and glossy;
gin of the outer-lip generally very thin, but some-
ry thick: length two inches; breadth one and a

young the aperture is oval, without the expanded
h gradually dilates into its angular points.
ost sandy coasts. *v. v.*

rombus costatus. *Ribbed Screw-shell.*
osta, pl. 8. f. 14—*Donovan,* pl. 94—*Dorset Cat.*
. 14.
thin, tapering to a fine point, light brown to deep
: spires ten or eleven, much rounded and tumid,
merous fine longitudinal ribs, and at the bottom of
lution a raised circular line which is doubled on the
ne, becoming gradually extinct in the lesser ones:
nearly orbicular; the outer-lip a little expanded
and

and sinuous, thickened outwardly by a border; inner-lip smooth, with a slight canal: length hardly half an inch; breadth a third of its length.

Variety. Without the raised spiral line at the bottom of the volutions.

Strombus turboformis. *Montagu*, pl. 30. f. 7.

Mr. Dillwyn remarks that the Str. costatus, a very rare and local species, is plentiful in Bantry bay. We have resided there for a week together, for the sole purpose of examining the heaps which are dredged up for manure, and have never been so fortunate, nor have any of our conchological friends, as to find a single specimen. It is probable that he mistook for it the Murex reticulatus, the most common of the shells among those heaps; and the more so, as at the time he made his visit to that part of Ireland, he confessedly paid little attention to this department of natural history.

On the Western and Scotch coasts: rare. *v. m.*

TELLINA. *TELLEN.*

Shell with two valves, generally sloping or curved to one side at the anterior end: hinge with usually three primary teeth, and the lateral teeth in one of the valves obsolete.

A. *Oval and convex*, 1 to 4.

B. *Oval and flat*, 5 to 15.

C. *More or less orbicular*, 16 to 32.

1. Tellina fragilis. *Brittle Tellen.* Fig. 18.

Lister, pl. 390. f. 229.

Tellina jugosa. *Brown, Wern. Soc.* pl. 24. f. 2.

Shell extremely thin and brittle, rounded and tumid at one end, and produced to a rough rounded point at the other, where it is something angular and a little gaping; valves equal, with numerous rather unequal extremely thin elevated transverse ridges, which become stronger and recurved towards the ends, with the interstices very faintly striate both transversely and longitudinally: color white, with

ith mostly a stain of yellowish-ferruginous which is eper towards the pointed end; sometimes it has a blueish st, and is often polished like fine enamel between the la-inar ridges; inside white, polished, with the margin very in and plain: hinge nearer one end: teeth very strong d prominent, in one valve a single tooth between two hol-ws; in the other two; lateral ones none in either valve: ngth an inch; breadth, nearly an inch and a half.

The teeth differ much in different specimens: sometimes e single tooth is rather triangular, and notched; some-mes broad, and a little recurved, like the tooth of a Mya; en placed obliquely transverse, or with a projection on e side, having the appearance of a smaller one attached it: the two teeth in the other valve are sometimes broad d diverging, sometimes round and a little recurved; but are uniformly very strong and projecting beyond the ge of the shell.

Found in great abundance imbedded in the blue clay be-w the village of Clontarf, near Dublin; in Valentia bay, d Bantry bay. *v. m.*

2. Tellina pusilla. *Minute Tellen.*

Lister, pl. 159. f. 15.

Shell somewhat oval, very convex, thin, brittle, transpa-nt, whitish or yellowish-white, but generally covered with rough extraneous coat, with sometimes a red spot about e hinge, probably occasioned by the dead inhabitant, re-larly and closely striate transversely; inside white or ll yellowish-white: hinge not quite central, with two imary teeth in one valve, in the other a single very minute e which is not always discoverable; the lateral teeth ominent, pointed, double in one valve only: length a ne; breadth rather more.

This is most probably the minute species mentioned by ontagu, p. 88. We have compared multitudes of them ith the young both of T. cornea, and T. amnica: from e first they differ in being more oval convex and transpa-nt, in being more regularly striate: from T. amnica in e being so much produced nor truncate, in the much eater convexity, and in the color, which in the latter is rays of a blueish cast both inside and out, and in the

teeth,

teeth. The size also never exceeds a line; and we have found them at all times of the year, both in England and Ireland, in the sandy sediment of streams, where neither the T. cornea nor amnica are to be met with. *v. v.*

3 Tellina amnica. *River Tellen.*

Dorset Cat. pl. 7. f. 2. a—*Wood*, pl. 47. f. 6.

Tellina rivalis. *Linn. Trans.* iii. pl. 13. f. 37, 38—*Donovan*, pl. 64. f. 2.

Cardium amnicum. *Montagu*, p. 86.

Shell thin, semitransparent, somewhat heart-shaped, shining brownish or blueish horn-color, often yellowish towards the margin, white when dead, regularly grooved transversely, a little oblique and produced at one end; inside blueish-white: beaks obtuse; teeth two in one valve, and two lateral ones each side, and one in the other with a single lateral one each side, which are strong and elevated above the margin: length about a quarter of an inch; breadth three-eighths.

In most rivers with a sandy bottom. *v. v.*

4. Tellina rubra. *Red Tellen.*

Cardium rubrum. *Montagu*, pl. 27. f. 4—*Walker*, f. 86.

Shell oval-globular, semitransparent, smooth but not glossy, or obscurely striate transversely, of an uniform rich deep purple red: beaks prominent, obtuse, purple red; inside dark glossy purple: hinge with two minute purple teeth in one valve placed close together, in the other similar teeth but placed remote so as to admit the teeth of the opposite valve between them; and in both valves a strong projecting white tooth or protuberance on one side only: length hardly the tenth of an inch; breadth a little more than its length.

Abundantly in the crevices of rocks in the south of Devon. *v. v.*

B. *Oval and flat*, 5 to 15.

5. Tellina lineata. *Lineated Tellen.* Fig. 16.

Shell somewhat oval, flat, thin, semitransparent, rounded at one end, narrowed and somewhat angular at the other, sloping down the cartilage side, marked with numerous fine

ılar transverse raised lines which grow stronger
the sides: color white, with a pale rosy ray down
ior slope; inside white: beaks not quite central,
hinge with two primary teeth and lateral laminar
ne valve, one of the teeth cloven; in the other
ingle cloven tooth without lateral ones: length
ths of an inch; breadth seven eighths.
ıg specimen of this shell was brought to us alive
bay, and we have since seen a few others.
lor, teeth, and the want of the longitudinal striæ
sh it from T. striata and T. punicea; and it is
ı proportion to its breadth. *v. v.*

lina striata. *Striated Tellen.*

gu, pl. 27. f. 2.
omewhat oval, flat, thin, semitransparent, rounded
ıd and a little angular at the other, very finely and
striate transversely, and longitudinally so in a
ıute manner, but these latter are probably merely
the shell: color rosy-white inside and out, darker
the hinge: cartilage slope indented; beaks not
ıtral, small, pointed: hinge with two primary teeth
all lateral one on each side, in both valves: length
breadth about three-quarters.
shire coast: very rare.

lina tenuis. *Thin Tellen.*

, pl. 405. f. 251—*Pennant*, pl. 51. f. 2—*Donovan*,
2—*Wood*, pl. 44. f. 3, 4—*Dorset Cat.* pl. 5. f. 3.
hin, brittle, glossy, semitransparent, faintly and
ly striate transversely, rounded at one end, some-
ular and pointed at the other which is a little
color white, red, yellowish, or variously mixed
erent shades disposed in transverse bands: beaks
arly central; hinge with two primary teeth in
ve, one of them cloven; and in one valve only a
all lateral tooth connected with the plain one:
eth are frequently shed, and not easily to be made
gth about half an inch; breadth three-quarters.
ist sandy shores. *v. v.*

8. Tellina Fabula. *Single oblique Tellen.*

Donovan, pl. 97—*Wood*, pl. 45. f. 4—*Dorset Cat.* pl. f. 3, and 3. a.

Shell oval, thin, glossy white, often reddish or yellow towards the hinge, transparent, sometimes reflecting descent colors, much produced at the anterior end t point which is a little turned up; one of the valves q smooth, the other marked with very fine oblique long dinal striæ: hinge lateral, with three teeth in one v and two in the other: length sometimes half an in breadth more than three-quarters.

Mr. Dillwyn, as is not unfrequent with him, has inve the length and the breadth of this shell.

On most sandy coasts. *v. v.*

9. Tellina similis. *Double oblique Tellen.*

Sowerby, Brit. Miscell. pl. 75.

Shell much resembling the last, but both the valve obliquely striate longitudinally over five-sixths of the face, leaving a small portion of each valve quite smo the smaller end is also not so much produced, more rou and not in the least turning upwards: length abo quarter of an inch; breadth half an inch.

Independently of the difference in the striæ, we c but think, with Mr. Sowerby, that the more rounde mination of the smaller end, and more especially the of the flexure upwards, a character always present in bula, entitle it to specific distinction.

Found near Brighton: very rare. *v. m.*

10. Tellina Donacina. *Wedge-shaped Tellen.*

Montagu, pl. 27. f. 3—*Linn. Trans.* viii. pl. 1. *Wood*, pl. 45. f. 5—*Dorset Cat.* pl. 12. f. 3. b.

Shell oval, thin, glossy, semitransparent, finely s transversely, rounded and a little dilated at one en ruptly sloping and obliquely truncate at the other wh a little flexuous and turned up at the lower angle: yellowish-white with red longitudinal rays irregular posed, and which sometimes appear in chain-like inside glossy yellowish white, with faint appearan

d rays: hinge close to the abrupt end, with a cloven and lateral plate in one valve, and a single pointed the other: length about half an inch; breadth an

stern coasts, Dublin and Bantry bays. *v. v.*

Tellina Ferroensis. *Carnation Tellen.*

er, pl. 394. f. 241—*Pennant*, pl. 50. f. 3—*Da Costa*, f. 1—*Wood*, pl. 45. f. 1—*Dorset Cat.* pl. 6. f. 1.
ina trifasciata. *Donovan*, pl. 60.
ll oblong oval, flattish, rounded at one end and an- at the other, with an elevated ridge running obliquely he hinge to the angular point, finely striate trans- , the striæ turning upwards in an angular manner he ridge at the anterior end, where they are crossed w raised lines running from the hinge to the abrupt color deep red towards the front margin, paler about nge: with whitish irregular longitudinal rays which equently disposed in threes; inside white: hinge central, with a single cloven tooth in one valve and the other; the lateral plates very obscure: length quarters of an inch; breadth nearly two inches. most sandy coasts. *v. v.*

Tellina punicea. *Cross-lined Tellen.*

set Cat. pl. 7. f. 5—*Wood*, pl. 39. f. 1.
ina inæquistriata. *Donovan*, pl. 123.
ll oval-oblong, strong, flattish, rounded at one end, her somewhat angular and sloping, strongly striate ersely and crossed with fine longitudinal lines: co- llowish-white, often deep purple towards the hinge, pale red with whitish bands and tinged with yellow : hinge in a kind of ray reaching half way down: small, pointed, nearly central: hinge with the pri- teeth cloven, the lateral ones remote and prominent: three quarters of an inch; breadth an inch and a r.

set coasts, and North Britain: rare. *v. m.*

Tellina depressa. *Flat Tellen.*

ovan, pl. 163—*Wood*, pl. 45. f. 3—*Dorset Cat.* pl. 5.

Shell oval, thin, flat, finely striate transversely at one end, the cartilage side produced into a angular sharp point which is a little inflected: orange, glossy, often covered with a brown sk pale yellow, faintly striate longitudinally, the m sharp: beaks nearly central; hinge with two te valve and three in the other, one of which is ver length an inch; breadth an inch and three quar

Western coasts, and Dublin bay. *v. v.*

14. Tellina inæquivalvis. *Unequal-valved Tel*

Donovan, pl. 41. f. 1—*Wood*, pl. 47. f. 2, 3, 4 *Wern. Soc.* pl. 8. f. 2.

Solen Pinna. *Montagu*, pl. 15. f. 3—*Penna* f. 3.

Shell oval-oblong, transparent, very thin and a nacred white color, transversely wrinkled, son micircular at the front margin, and more or le inwards at the back, rounded at one end, and pro an obtuse point at the other which is a little wards; one of the valves a little convex and l other nearly flat and turning up at the back marg near one end, small, pointed, curving over the the cartilage running in a more or less curved the back and connecting the valves nearly to the which is a rugged ridge or slope in each valve, gi a carinated appearance: hinge with a single blun tooth in each valve not locking into each other, teral ones.

By the examination of a series of specimens i rious stages of growth, measuring from four-te inch in breadth to an inch and four-tenths, we ar beyond all future doubt, to justify the suspicion of that these two shells are the same in their differe of size. In the very young shell the dorsal sutu straight, and both the sides are nearly equally when half grown it begins to put on a slight cu wards; and when of full growth the back is co arched and produced at one end into a rounded

On the Kentish and Devon coasts, and Guern *v. m.*

1

15. Tellina Laskeyi. *Laskey's Tellen.*

Montagu, pl. 28. f. 3.

Shell oval-oblong, smooth, rounded at one end and ob-ely pointed at the other: color purplish-white, darker wards the hinge, more or less clouded with purple in the idle, covered when fresh with an olive yellow skin; in-le white round the margin, and channelled from the teeth nost to the end of the longer side: hinge with a single imary tooth in one valve, and two approximate slightly ven ones in the other: length half an inch; breadth ee-quarters.

In the Firth of Forth, discovered by Captain Laskey; d is exceedingly rare.

C. *More or less orbicular*, 16 to 32.

16. Tellina maculata. *Spotted Tellen.* Fig. 13.

Shell oblong inclining to orbicular, thin, brittle, whitish ered with numerous irregular dull brown spots and tches, strongly and regularly striate transversely, and ssed by extremely fine longitudinal lines in the inter-ces, which however do not cut the concentric rounded ise, well rounded at both the sides, the anterior end a y little produced and narrower; both valves equal; ks a little prominent, not quite central; inside yellowish-ite, polished, with a plain margin: hinge with two teeth ach valve and a remote lateral one, the middle tooth ven: length about an inch; breadth an inch and a quarter. This is most probably the T. maculata, so imperfectly de-ibed by Mr. Adams, in the third volume of the Linnean nsactions. We found it, in a perfect state, at Bantry bay: e. *v. m.*

17. Tellina crassa. *Thick Tellen.*

Lister, pl. 299. f. 136—*Da Costa*, pl. 13. f. 4, right hand ire—*Pennant*, pl. 51. f. 1—*Wood*, pl. 40. f. 1—*Dorset* f. pl. 7. f. 4.

Tellina rigida. *Donovan*, pl. 103.

Shell somewhat orbicular, a little produced at one end l generally slightly irregular in its outline, flattish, with of the valves more convex than the other, marked with

numerous thick raised thread-like concentric striæ, the interstices of which are very minutely striate longitudinally, observable only by the help of a glass; the older shells a little flexuous and angular at the anterior end, one of the valves more convex than the other: color yellowish, with often faint red longitudinal rays; inside polished, sometimes radiate with red, and marked with obscure longitudinal lines, a strong rib running down obliquely from the hinge on the anterior side half way to the margin: beaks pointed, not quite central: hinge with two teeth in the flatter valve, one of them cloven, and one of the lateral teeth very minute; in the deeper valve the primary teeth are the same, with two distinct lateral ones: length an inch and a quarter; breadth sometimes two and a half.

A dozen of these shells dredged up in the most perfect state, both English and Irish, are now before us, all of them marked more or less with the minute longitudinal lines, but not uniformly on all parts of the shell; in the younger shells these fine lines often extend over the surface of the ridges: in all of them we likewise observe the fine row on the inside of the beaks, running from the inner side of the posterior lateral tooth; and also the depressed line but not punctured on the inside and parallel with the margin. We therefore suspect that the next species, T. reticulata, which Montagu describes from a specimen sent him by Mr. Rackett, is nothing more than a perfect and closely examined specimen of this shell: and we are the more inclined to this opinion, as the outline of this species is subject to very considerable variation. We however give the description of what has been supposed to be the T. reticulata, in the words of Montagu himself. *v. v.*

18. Tellina reticulata. *Reticulated Tellen.*

Linn. Trans. viii. pl. 1. f. 9—*Wood*, pl. 42. f. 2, 3. *Dorset Cat.* pl. 5. f. 4.

"T. with a suborbicular, subdiaphanous shell, beset with numerous fine, regular, elevated, concentric ridges; the interstices or furrows crossed with minute striæ, scarce discernible but by the help of a glass: umbo small, prominent, placed nearly central, and turns a little to one side: hinge with two small central teeth, and broad lateral

nat

ated lateral ones, projecting above the margin; from the pex a furrow runs on the inner-side of the posterior la-eral tooth, in which the connecting cartilage is fixed: color ellowish-white. Inside smooth, glossy yellow: the tongue r cicatrix to which the animal is affixed, is broad, and uns into the middle of the shell; margin plain, beneath hich is a depressed punctured line, parallel with the outer dge, not very conspicuous in younger shells. Length an nch and a quarter; breadth something more."

Gmelin has also observed, that the transverse striæ are rossed by longitudinal ribs; that behind the beaks is a ery short heart-shaped depression; and that the lateral eeth are single.

From the Dorsetshire coast.

19. Tellina Radula. *Rasp Tellen.*

Montagu, pl. 2. f. 1, 2—*Wood*, pl. 42. f. 4, 5.

Venus borealis. *Donovan*, pl. 130.

Shell nearly orbicular, white covered with a pale brown kin, rough with close-set concentric ridges; the posterior lope indented under the beaks, with a small oblong heart-haped depression; the cartilage margin running nearly traight from the hinge, along which is a slight furrow in ach valve; inside chalky white, of a clearer color round he margin, where it is marked with longitudinal wrinkled ines: beaks central, pointed, turning towards the posterior ide: hinge with two teeth in each valve, one of them loven, and without lateral ones: diameter an inch and a alf.

Western coasts, Dublin bay, and Cove. *v. v.*

20. Tellina fausta. *Obsolete Tellen.*

Linn. Trans. viii. pl. 1. f. 8—*Donovan*, pl. 98—*Dorset at.* pl. 5. f. 5.

Shell nearly orbicular, somewhat compressed, semitrans-arent, white, minutely and obscurely striate concentrically, loping much at the sides which give the beaks a very pro-luced appearance, with a flexure at the posterior side from he beaks to the margin: beaks small, nearly central, not nclining to either side; inside smooth, white: hinge with ne of the teeth in each valve cloven; lateral teeth strong,

that

that in the right hand valve more solid and remote: length an inch and three quarters; breadth as much.

This may possibly be one of the varieties of T. crassa.

At Weymouth: very rare.

21. Tellina rotundata. *Round Tellen.*

Lister, pl. 297. f. 134—*Montagu*, pl. 2. f. 3—*Dorset Cat.* pl. 5. f. 8.

Shell very convex, orbicular, often produced at the anterior side, and a little flexuous in the circumference, thin, semitransparent, chalky or yellowish white, and generally covered with a brownish skin, with fine irregular transverse striæ and a few larger ridges; inside white, but not glossy, clearer round the margin, with a faint appearance of longitudinal striæ: beaks nearly central, prominent, pointed, hardly inclining to either side, without any heart-shaped depression under them: hinge with two teeth in each valve, one of them cloven, the other somewhat diverging, and a slight groove which runs in nearly a straight direction from the beak along the posterior margin: diameter an inch.

Western coasts, and Bantry bay. *v. v.*

22. Tellina lactea. *White Tellen.*

Montagu, pl. 2. f. 4—*Dorset Cat.* pl. 5. f. 9?

Shell orbicular, flattish, thin, yellowish-white, often covered with a brownish skin, irregularly striate transversely; inside dull chalky-white, clearer round the margin, with a faint appearance of longitudinal striæ: beaks central, prominent, pointed, turning to one side, with a slight oval depression under them: hinge with a single entire tooth in one valve, looking between two simple divaricate ones in the other, and a deep furrow which runs obliquely from the beak on the anterior side in each valve: diameter three quarters of an inch.

This species is very rare, and distinguished from the last in being much flatter and more regularly rounded in the circumference; in the deep oblique furrow which runs from the teeth along the cartilage margin withinside, which is totally wanting in the last; in the teeth; and in having a heart

urt-shaped depression under the beaks, causing them to
prominent pointed and curved.
Mr. Rackett's figure is evidently the T. rotundata.
On the western coasts. *v. m.*

23. Tellina flexuosa. *Crooked Tellen.*

Wood, pl. 47. f. 7 and 8.
Venus sinuosa. *Donovan*, pl. 42. f. 2.
Shell nearly orbicular, convex, thin, brittle, white, trans-
ent, finely but irregularly striate concentrically: from
hinge at the anterior side runs a longitudinal furrow
ich forms a flexure at the margin, and a projecting angle
f way up the side: under the beak, on the opposite side
his flexure, is a heart-shaped depression: hinge with
obsolete tooth only: diameter three-eighths of an inch.
Western coasts, and Dublin bay. *v. v.*

24. Tellina solidula. *Solid Tellen.*

Lister, pl. 405. f. 250—*Pennant*, pl. 52. f. 2—*Da Costa*,
12. f. 4—*Wood*, pl. 46. f. 2—*Dorset Cat.* pl. 8. f. 4.
Shell somewhat orbicular, a little flattened, thick, finely
iate and irregularly wrinkled transversely; one end a
le produced and rounded, the other slightly truncate
l somewhat angular: color dull reddish-white, with ge-
rally concentric bands of red yellow or whitish; inside
ooth, red, yellow, or white of various hues, and usually
a deeper tint on the outside: beaks nearly central; hinge
h two small teeth in each valve: length three-quarters
an inch; breadth rather more.

Variety. Quite white. *Pennant*, pl. 52. f. 2. A.
On most shores, in clay. *v. v.*

25. Tellina carnaria. *Carnation Tellen.*

Lister, pl. 339. f. 176—*Donovan*, pl. 47—*Wood*, pl. 40.
, 5—*Dorset Cat.* pl. 5. f. 6.
Shell somewhat orbicular, a little produced on one side,
tish, white with more or less of a rosy tinge, marked
h numerous fine longitudinal oblique striæ, which are
lected at one side and undulate at the other, and crossed
a few concentric wrinkles; inside smooth, glossy, ge-
ally fine rose-color: beaks not quite central: hinge
with

with two small teeth in one valve, one of th
the other valve a single tooth.

Dorset and Cornish coasts, and the we
rare. *v. m.*

26. Tellina bimaculata. *Double-spotted T*

Donovan, pl. 19. f. 1—*Wood*, pl. 45. f
Cat. pl. 5. f. 7.

Shell somewhat orbicular, a little produce
at one end, the other end very slightly angu
parent, with fine irregular concentric striæ
with two oblong scarlet spots withinside, on
the hinge, which reach about half way to the
and are generally visible in a fainter mann
side: hinge with two strong central te
remote lateral ones: length half an inch;
eighths.

Variety A. Of an uniform deep purple c
out.

Variety B. With chain-like rays of arrow
spots, and without the red marks.

On the Dorset coast: very rare. *v. m.*

27. Tellina pisiformis. *Pea Tellen.*

Cardium discors. *Montagu*, p. 84.

Shell nearly globular, rounded, glossy w
merous very minute oblique transverse striæ
anterior side are reflected upwards, and forn
gle: beaks small, central, inclining a littl
inside glossy white, with the margin plain:
single plain tooth in one valve, locking betw
other, one of which is very small; the later
and prominent: length five eighths of an in
quarter.

One dead specimen only has been found, t
Falmouth harbour.

28. Tellina divaricata. *Arched Tellen.*

Lister, pl. 301. f. 142.

Cardium arcuatum. *Montagu*, pl. 3. f. 2

Shell orbicular, rather convex, very sligh

ior side, thin, brittle, semitransparent, white but
, with regular but not very close striæ, which in-
nely upwards towards the posterior edge and
se curves, which divaricate at their base on both
forming nearly right angles, so that the lateral
s appear striate in opposite transverse direc-
surface is also marked with a few concentric
ks central, very prominent, the cartilage margin
nearly a straight direction: inside glossy white,
nargin plain: in one valve a single cloven primary
king into two plain ones in the other, with a
groove extending beyond them; the lateral
ote and very minute: diameter half an inch.
outh harbour, and at the Land's end, Cornwall:
lso found it in Teignmouth bay. *v. m.*

llina suborbicularis. *Orbicular Tellen.*

borbicularis. *Montagu*, pl. 26. f. 6.
omewhat globular, semitransparent, yellowish-
en covered with a brown skin, rather glossy and
metallic colors, with mostly a large lucid spot on
below the beaks, finely striate transversely, both
nearly equal and rounded, with the front margin
aight, and closed all round: beaks central, promi-
nted, a little turned to one side; inside chalky-
cept the lucid spots of the connecting cartilage:
th a single recurved tooth in one valve, locking
two in the other, and placed immediately under
behind the points of the beaks, besides a lamellar
what remote tooth placed longitudinally in each
ngth three eighths of an inch; breadth half an

its great similarity to T. cornea, and its being fur-
ith lateral teeth, we have no hesitation in placing
genus.
coasts, and Dublin bay; often imbedded in hard
e, and frequently among masses of the Serpula tu-
we have also sometimes found it inclosed in the
the Arca perforans. *v. v.*

ellina cornea. *Horny Tellen.*

, pl. 159. f. 14—*Pennant*, pl. 52. f. 3—*Da Costa*,
pl. 13.

pl. 13. f. 2—*Donovan*, pl. 96—*Wood*, pl. 46. f. 3—*Dorset Cat.* pl. 7. f. 2.

Shell somewhat globular, inclining to a triangular shape, thin, transparent, pale horn-color or yellowish-white, generally covered with a dark skin or an extraneous coat, often bright yellow round the front margin, finely striate concentrically, with a single large deep transverse groove, which is sometimes near the margin, sometimes about the middle, and often wanting; inside smooth glossy, blueish-white: beaks prominent, obtuse, central: hinge with the primary teeth very minute; lateral ones remote and prominent, double in one of the valves: length three eighths of an inch; breadth half an inch.

Variety. Double the size, and without the groove.

The single transverse groove appears to be rather a mark of annotination than a determinate specific character. In the young shell it is wanting; as it increases in age it appears close to the frontal margin; and in old shells it approaches pretty near to the hinge.

Mr. Wood has unfortunately translated the Linnean character, "sulco transversali," by the words "transversely grooved." And Mr. Dillwyn seems to have fallen into the same mistake.

31. Tellina lacustris. *Lake Tellen.*

Wood, pl. 47. f. 5.

Shell somewhat rhombic, very thin, transparent, smooth or obscurely striate transversely, flattish, especially round the front margin, pale horn-color or covered with a dark brown skin: beaks very obtuse, and so much projecting beyond the margin as to give the shell a heart-shaped appearance when viewed sideways: hinge with a plain tooth in one valve, and a cloven one in the other: length three tenths of an inch; breadth four tenths.

It differs from the last, in its flattened margin, projecting beaks, and rhombic shape.

In slow and stagnant waters. *v. v.*

32. Tellina polygona. *Polygonal Tellen.*

Montagu, pl. 28. f. 4.

Shell somewhat orbicular, a little produced at the end, dir ty

lirty white, rounded at the larger end, slightly truncate and
little angular at the other, finely striate concentrically,
nd crossed with minutely fine longitudinal lines; inside
ot very smooth, with the margin uneven: hinge not cen-
al; in one valve two teeth, large, and distant; in the
ther a large triangular cloven tooth, with a smaller one
ear it: length half an inch; breadth something more.
In the Firth of Forth: very rare.

TEREDO. *SHIP-WORM.*

Shell with two primary hemispherical valves,
ch of them furnished with a long incurved tooth;
d attached at the posterior side to a long cylin-
ical testaceous tube.

Montagu, whose opportunities and whose accuracy of
crimination led him to a close examination of this ge-
s, is the first naturalist who has pointed out to our at-
ntion the structure of the hemispherical valves which
rminate the larger end of the cylindrical tube. Every
alogy, in comparison with other genera of a similar
ructure, induces us to consider these valves as primary
gans, and the tube with its various appendages as merely
cessorial. Like the Pholas tribe, to which they seem to
most allied, they are furnished with distinct valves con-
cted by a moveable hinge, and furnished with correspond-
teeth. The tube appears to be a mere calcareous se-
tion, for the purpose of securing the animal a lubricous
ssage, and probably defensive against the rough surface
accidental collapse of the wood. The formation of this
cretion, which seems to have a solvent power over the
bin of the wood, and perhaps the fibre itself, appears to
in the frontal opening of the primary valves; as in most
the specimens which we have examined in a fresh state,
ere was found at the head of this opening, a thin soft
ulpy hemispherical mass, of a chalky white color, which
rdened upon exposure to the atmospheric air, and resem-
ed in shape the Anomia Cepa. This mass was sufficiently
ncave to cover the valves, defended from its action by a

peculiar skin, and furnished materials, by its junction with the tube, for gradual elongation in its progress through the wood.

Against this doctrine, we are aware that the theory of actual mechanical action, as supposed by Sir Everard Home, in the Philosophical Transactions for 1806, will be naturally opposed to us. Deference to authority so respectable, will at all times make us diffident of our own opinions in contravention: but as the subject, in our present state of the physiological knowledge of this class of animals, is little more than speculative; and as the inquiry comprehends a curious investigation of singular animal economy, we will venture to make such remarks as have occurred to us.

Comparative reasoning will support us; since it cannot for a moment be supposed, that the Pholas, a tribe very much approximating to the Teredo in habits and properties, make their still more considerable excavations, both in wood and stone, by any mechanical process. Still less is the probability, or even possibility, of many others which are known to inhabit the interior of rocks, as the Arca perforans, Mya distorta, Venus perforans, Solen minutus, and even the Ostrea sinuosa, to form and expand their chambers, except by a solution of the substance around them. The action of boring, as by a centre-bit, against the grain of oak hardened by a long lodgement in salt water, must suppose a power not very compatible with the mere gelatinous substance of which the upper part of this animal is composed, unfurnished with the necessary apparatus for muscular resistance, and where at least one complete circular volution of the instrument must be made. But to put the question, as we think, beyond all doubt, the internal termination of every perforation, and we have some hundreds before us of all sizes, is spherically concave, and not abruptly truncate, which must be the case if it were effected upon the principle of a centre-bit.

We are also inclined to suspect from analogy, that the Teredo gigantea has its larger termination in some calcareous substance, probably a soft sandstone or limestone.

Presuming therefore upon the foregoing observations, we have been induced to draw our specific distinctions principally

ally from the primary valves, regarding them as corre-ative with all those shells which are furnished with a hinge onnecting the valves by a cartilage; at the same time iking into our view the peculiar formation of the lower ccessorial valves, and the tube.

1. Teredo navalis. *Common Ship-worm.*

Home, in Philos. Transact. 1806. pl. 12 and 13.

Shell thin, brittle, semitransparent, white, covered when reah with a dark brown or deep green skin, with a large ircular opening in front: valves very convex, both sides spering longitudinally, or from the hinge to the front argin, to an obtuse point, giving them a triangular appear-ance; on one side of each, close to the hinge, is a some-hat triangular projection, which is regularly but rather re-notely striate transversely; behind this is a narrow space inutely and closely striate longitudinally in straight lines; he remaining surface irregularly striate in a curved direc-ion: on the opposite side, close to the hinge, is a smooth ounded projection, defined on the underside by an oblique ongitudinal ridge; inside white, glossy, with a thick knob t the termination of the smaller end: hinge with a long lender curved tooth in each valve, placed interiorly as in he Pholas, besides a tooth-like projection seated upon the inge, which in one valve terminates in a small reflected mellar point locking into the opposite valve: tube mooth, thin, taper, straight or a little flexuous, from a ot to two feet in length, lodged in wood, contracted in-ernally towards the smaller end, where the inhabitant is ttached by a strong muscle: at this place it is furnished ith two spoon-shaped valves, linear and somewhat flexu-ous at top, and dilated at the bottom, concave on the inside with a rib down the middle, truncate at the end, for the purpose of closing up the orifice at pleasure, and containing he two terminal tubes of the animal: below these valves he tube is divided by thin close-set transverse circular partitions, ten or twelve in number, filling up about half he orifice and leaving a large oval opening; and close to he end it is again crossed by a dissepiment, causing a dou-ble opening at the termination for the protrusion of the two ubes at the lower extremity of the animal: length of the

primary valves, from the hinge to the pointed margin, about three-quarters of an inch; diameter not quite so much.

Sir Everard Home, in his minute account of the Teredo navalis and its inhabitant, observes, that the smaller end of the tube, or that which protrudes outwards from the wood, is contracted but not divided into two canals, as in that of the T. gigantea; and has taken no notice of the semi-concamerated formation of the tube below the spoon-shaped valves. There is on the wharf at Teignmouth, at the time we are writing these remarks, a tree of British oak, identified by its marks as having been some years since lost in the bay, lately trawled up, filled with these animals in a living state, exhibiting a proof that they are natives of our own climate, and at the same time offering a fine study of the species. The surface of this tree, especially at the ends, is covered over with the tubes, protruding beyond the wood from a quarter of an inch to an inch and a half, all of them with a double orifice and chambered internal structure. If therefore it be accurate that the specimens which Sir E. Home received from Sheerness had a simple orifice, and were without the chambered partition, our present species is evidently distinct, and should be denominated Teredo concamerata.

There is a good figure of this shell, but without description, in Humphrey's and Da Costa's Conchology, plate 10. fig. 1, 2, 3, the third figure showing the internal semi-concamerated formation. *v. v.*

2. Teredo bipennata. *Feathered Ship-worm.* Fig. 38, 39, 40.

Shell resembling the last, but on the posterior side or that which is opposite the triangular projection, and close under the hinge, is an ear-shaped process of an oblong shape, reflected at the outer margin, and detached all round on the under side by the longitudinal rib forming a kind of sharp raised keel.

The tube is thicker and stronger than the last, simple at its outer orifice, without the spoon-shaped valves; instead of which there are inclosed two slender flexible substances, of a spongy rather than testaceous texture, nearly four inches long and hardly the tenth of an inch in diameter,

. silvery white color, and embossed with numerous white tubercles: the lower half of these quills is with numerous tufts of yellowish lanceolate fringe-nents, pointing forwards and disposed in a verticil-whirled manner, the lateral ones being elongated nselves fringed on the inside, giving this part a l pennated appearance. These feathered append-a be ejected and retracted at pleasure, and are pro-struments of absorption, as the animal is furnished ingle terminal tube, whose office may perhaps be harge and deposit of its eggs or spat.

a summer of 1817, a large piece of fir timber was nto the mouth of the river Ex, in Devonshire, co-n the outside with the Lepas anatifera, and perfo-ith these interesting animals in a living state. They o resemble the species which Lamarck observed in eum of Cuvier, at Paris, except that he describes nated appendages as being jointed: size of the . v.

redo dorsalis. *Back-valved Ship-worm.*

yellowish-white, with often a purplish cast about e, covered with a blackish skin, with a triangular on as in the two last, but the narrow space beneath strongly and remotely striate in an oblique direc-der which is a longitudinal groove bounded by a ib: the side opposite the triangular projection is and tumid; in consequence the front margin is ated but well rounded, without the ear-shaped ap-: on the back are two additional oblong transverse ccessorial valves, one attached to each of the pri-lves, and meeting together at the hinge: inside lossy, with a strong longitudinal raised rounded nding from the insertion of the primary tooth to gin, the end of which is thickened by a transverse not ending in a knob: hinge with the primary teeth e others, and a single supplemental tooth in each ated on the hinge, one of which is tubercular, the mall reflected point: the tube is rather rugged, wn, abrupt and rounded at the lower end, where two large circular orifices.

The rounded outline of the front margin, the want of the ear-shaped appendages, the internal rib, and more especially the accessorial dorsal valves, strongly mark this species from the two last. It may also be observed that the hinder part is closed when the valves are placed together, in consequence of their rounded outline.

Thrown up on the Devonshire coast. *v. m.*

TROCHUS. *TOP-SHELL.*

Shell with a single valve, spiral, more or less conic: aperture somewhat angular or rounded, and contracted transversely: pillar placed obliquely.

A. *Perforated at the base,* 1 to 5.

B. *Imperforate at the base,* 6 to 11.

1. Trochus Magus. *Tubercled Top-shell.* Fig. 64.

Lister, pl. 641. f. 32—*Pennant,* pl. 83. f. 4—*Da Costa,* pl. 3. f. 1—*Donovan,* pl. 8. f. 1—*Dorset Cat.* pl. 16. f. 1, 2.

Shell with five or six tumid spires, a little depressed, ending in a fine point, marked with fine circular ridges, well defined by a deep separating line, and a raised rib round the base of each; the top of each volution rather flattened, and surrounded with a row of obtuse tubercles or short ribs seated close to the ridges, and most conspicuous on the larger ones: color dull white or brownish, often marked with irregular spots lines or undulations of scarlet, pink, pale purple, or chesnut-brown: aperture a little compressed and somewhat angular, the pillar a little prominent in the middle, with a large and deep perforation. When the outer coat is removed it presents the richest iridescent perlaceous hue: diameter from an inch to an inch and a half, and about as much in height.

On most sandy shores, *v. v.*

2. Trochus umbilicatus. *Purple-tipped Top-shell.*

Pennant, pl. 83. f. 3—*Da Costa,* pl. 3. f. 4—*Donovan,* pl. 74, middle fig.—*Dorset Cat.* pl. 16. f. 7, 8.

Shell with five spires, which are hardly raised or distinct from

n each other, and slightly marked by the line of sepa-
on, depressed and blunt at the tip where there is gene-
y a small perforation, obscurely striate circularly: co-
mostly dark dull green, with longitudinal waved stripes
igzag spots or lines of a darker color varying to light
lark purple: the base nearly smooth and more strongly
rked with stripes or spots: aperture a little compressed
l something angular, perlaceous within: perforation
ge and deep, reaching to the top, through which it is
stly pervious: the young shells are very flat: diameter
ee-quarters of an inch; height nearly as much.
In most coasts. *v. v.*

3. Trochus cinerarius. *Ash-colored Top-shell.*

Lister, pl. 641. f. 31—*Da Costa*, pl. 3. f. 6—*Donovan*, 74, two upper and lower fig.—*Dorset Cat.* pl. 16. 1, 12.

Shell with five or six spires, which are a little rounded l well defined by the line of separation, tapering to a y fine point which is generally of a chesnut color, dis-ctly marked with numerous fine raised circular lines; or grey, often of a blueish or dull crimson cast, with row oblique close-set longitudinal brown lines; the base sely and strongly striate, and appearing as if minutely ercled: aperture a little compressed and somewhat an-ar, perlaceous within, with a small but deep perfora-n: the young shells are flattish but pointed, with a ad base: diameter five-eighths of an inch; height hardly much.

It is easily distinguished from the last by its grey color, ecially at the base, by the more distinctly raised volu-s, the minute brown tip, and regularly striate base, ich is generally a little rough to the touch.

In most sandy shores. *v. v.*

4. Trochus tumidus. *Tumid Top-shell.*

Montagu, pl. 10. f. 4—*Dorset Cat.* pl. 16. f. 9, 10—*Walker*, f. 58.

Shell conic, with five or six spires, and sometimes seven, ich are well defined and a little flattened at the top of h, tapering to a very fine point, marked with numerous extremely

extremely fine and close-set circular lines; the base of the larger volution with a slight keel-like circular ridge: color grey or purplish-brown, with sometimes a yellowish cast, rarely spotted with white at the top of each volution, with numerous longitudinal obscure oblique waved lines or spots: aperture a little angular, perlaceous within; the perforation small, deep, often divided in the middle by an elevated ridge, giving it the appearance of having a double groove, with frequently a small tooth-like projection on the pillar-lip: diameter about a quarter of an inch; height rather more.

From the circumstance of the grooved aperture and slightly toothed lip, we suspect that the next species was a larger or a foreign specimen of this shell.

Western coasts, and Dublin bay. *v. v.*

5. Trochus cinereus. *Grey Top-shell.*

Lister, pl. 633. f. 21—*Da Costa*, pl. 3. f. 5—*Donovan*, pl. 155. f. 2.

Shell thick, strong, with five tumid spires, rather pointed at the top, with numerous raised circular striæ: color grey, with close-set blackish lines; the base variegated with blackish streaks which run lengthways and across, pearly and of a light greenish cast about the perforation, which is large, deep, and cylindrical; the pillar-lip with two slight teeth, and two transverse furrows: about double the size of the former.

A very doubtful species.

B. *Not perforated at the base*, 6 to 11.

6. Trochus crassus. *Thick Top-shell.*

Da Costa, pl. 6. f. 7—*Dorset Cat.* pl. 17. f. 3 and 7—*Donovan*, pl. 71.

Shell strong, thick, conic, pointed, smooth, covered with a coarse coat, under which it is of a fine iridescent perlaceous color; spires five or six, rather tumid, separated by a faint spiral line; the larger volution with a few obsolete wrinkles near the mouth, and often slightly notched or jagged on the line of junction: color dull greyish-brown, with numerous purplish zigzag lines; inside perlaceous, with a black band round the margin; the pillar-lip and about

alf the surface of the base white, the latter appear-
if worn flat: aperture roundish-oval, with a tooth-
ojection in the middle of the pillar, and sometimes
l indenture like an incipient perforation behind it:
er an inch; height an inch and a quarter.
many rocky coasts. *v. v.*

rochus Ziziphinus. *Livid Top-shell.*

er, pl. 616. f. 1—*Pennant*, pl. 83. f. 1—*Da Costa*,
. 2—*Donovan*, pl. 52—*Dorset Cat.* pl. 16. f. 3, 4.
ll conic, strong, finely pointed, with seven or eight
which are separated by a raised smooth flattish cir-
elt, and obscurely striate or ridged in the same di-
, sometimes slightly beaded at the very tip which is
; the base obscurely striate circularly, and very
wrinkled across: color livid white or pale purplish
ith red or dark purple longitudinal blotches, which
y distinct on the belts and at the base, crossing them
gular banded manner; inside white, perlaceous,
: aperture a little flattened and angular, with a slight
tion where the pillar begins to thicken: diameter
an inch; height something more.

iety A. Quite white, with the volutions more di-
y defined.

iety B. With the volutions separated by a hollow
deep division, and wrought with indistinct spiral
: from the lip to the pointed end also runs a deep
e groove.
hus discrepans. *Brown, Wern. Soc.* ii. pl. 24. f. 4.
most rocky coasts. The variety B. was found in Bel-
ugh, by Miss Templeton. *v. v.*

rochus Conulus. *Cone Top-shell.*

ant, pl. 33. f. 2—*Donovan*, pl. 8. f. 3.
ll thin, semitransparent, regularly conic and taper-
a very fine point: spires ten, strongly striate circu-
nd separated only by a fine line, the five or six up-
es strongly beaded, and all of them more or less ob-
r so: color livid white or pale horn-color, faintly
d with longitudinal purple blotches, which are only
well

well defined at the base of the larger volution; inside transparent, perlaceous; the base and aperture as in the last, but the circular striæ are stronger: diameter seven-eighths of an inch; height an inch.

This appears to be an intermediate species between the last and the next. From Tr. Ziziphinus it differs in having the cone extended to ten volutions, the upper ones only of which are distinctly beaded, in the total want of the flattened belt, and in the stronger and better defined circular ridges: it is also a much thinner shell. From the next it evidently differs, in not having the base so very tumid and rounded, in not being regularly beaded throughout, nor so remarkably thin and fragile, and in wanting the chains of circular red spots at the base.

Dredged up at Bray, near Dublin. *v. v.*

9. Trochus papillosus. *Granulated Top-shell.* Fig. 62.

Da Costa, pl. 3. f. 3—*Donovan*, pl. 127—*Dorset Cat.* pl. 16. f. 5, 6.

Trochus tenuis. *Montagu*, pl. 10. f. 3.

Shell conic, finely pointed, transparent, extremely thin and brittle: spires eight, rather rounded, with hardly any distinguishable separating line; the larger volution remarkably rounded and tumid at the base, the next more tumid than the rest, and all of them finely granulated or beaded throughout: color pale reddish brown, with obscure red spots in longitudinal lines; the base very convex, circularly striate, and slightly wrinkled across, marked with numerous concentric rows of chain-like purplish-red spots: aperture a little angular, perlaceous within; pillar-lip pearly, reflected so as to form a slight groove behind it: diameter about an inch; height rather more.

In comparing our foreign specimens of Tr. Granatum, from New Zealand, with the native ones from Bray in Ireland and Devonshire, we can perceive hardly a shade of difference. *v. v.*

10. Trochus exiguus. *Crimson-tipped Top-shell.*

Lister, pl. 621. f. 8—*Da Costa*, pl. 2. f. 4—*Donovan*, pl. 8. f. 2—*Dorset Cat.* pl. 22. f. 4.

Shell

onic, pointed: spires six or seven, hardly raised ed, but defined by a raised beaded rib, and each surrounded by four or five lesser beaded lines; regularly and distinctly striate circularly: color wnish, or white; the larger ridges often red, and with white, and the tip generally of a fine deep : aperture nearly square, not perlaceous within, ietimes a small indenture behind the pillar, like ent perforation: diameter a quarter of an inch; iree-eighths.
rn coasts, and Dublin bay. *v. v.*

ochus erythroleucos. *Streaked Top-shell.*

, pl. 616. f. 2—*Dorset Cat.* pl. 18. f. 2.
is conicus. *Donovan*, pl. 155. f. 1.
pyramidal, pointed, with a broad base which is urrounded by a raised rib: spires seven or eight, stinguishable by any raised line, each marked with eight fine circular and slightly beaded lines; the her convex, and circularly striate: color white, dull reddish-brown, with often purple longitudinal ed lines or streaks: aperture nearly square, per within: diameter a quarter of an inch; height alf an inch.
istinguished from the last, by its broad and cari se, the want of the crimson tip, the superior num ineness of the circular lines on the volutions, in rlaceous within the aperture, and in not being so defined at the junctures by the beaded margin.
rn coasts, and Dublin bay: rare. *v. m.*

TURBO. *TURBAN.*

with a single valve, spiral, solid: aperture ted, more or less orbicular and entire.

first division of this family it will be observed, ave collected into one point all those shells which pillar-lip flattened, and are so peculiarly marked roove and terminal perforation, and which have been scattered among the Turbo, Helix, and Nerita

rita tribes, as the imagination of different authors has fancied their approximation. They are all of modern discovery, and in none of them is the pillar-lip sufficiently transverse to entitle them to a place among the Nerites: we think therefore that they form a singularly appropriate division, in contrast with the second, where the pillar-lip is placed rather transversely and flattened, but without the groove and perforation.

A. *The pillar-lip flattened, with a groove along its middle which terminates in a perforation,* 1 to 6.

B. *The pillar-lip flattened, without groove or perforation,* 7 to 15.

C. *Solid, and imperforate behind the pillar,* 16 to 31.

D. *Solid, and perforated behind the pillar,* 32 to 34.

E. *The spires cross-barred, or reticulate,* 35 to 56.

F. *Tapering, but not cross-barred,* 57 to 66.

G. *The aperture toothed within: spires regular,* 67 to 78.

H. *The spires reversed,* 79 to 85.

I. *Flat, and resembling the Helix,* 86 to 92.

K. *Indistinct species,* 93 to 105.

A. *The pillar-lip flattened, with a groove along its middle, which terminates in a perforation,* 1 to 6.

1. Turbo pallidulus. *Pallid Turban.* Fig. 85, 86.

Nerita pallidula. *Da Costa,* pl. 4. f. 4, 5—*Donovan,* pl. 16. f. 1—*Dorset Cat.* pl. 20. f. 4, 5.

Shell transversely oval, thin, semitransparent, very obscurely striate longitudinally, and slightly wrinkled across, whitish covered with a pale brown or greenish skin: spires three or four, the first very large and much spread towards the outer margin, the others placed laterally and flat upon the surface, or having the appearance of being rather sunk beneath it: aperture ample, nearly orbicular, slightly angular towards the pillar, much spread at the margin; the outer-lip thin, somewhat reflected and fringed by the outer skin; pillar-lip broad, oblique but not transverse, with a rather narrow groove which terminates in a somewhat spiral

iral perforation: length three-eighths of an inch; breadth quarter.

Variety. Strongly striate transversely. *Fig.* 24, 25.
On the leaves of Fuci. *v. v.*

2. Turbo Puteolus. *Caverned Turban.* Fig. 90, 91.

Shell oblong-oval, thin, semitransparent, striate or wrinled transversely, whitish covered with a dark purple skin: ires three or four, the first very large and produced in ont, the others placed laterally, but raised rounded and ell defined: aperture large, roundish-oval, rounded and t spread at the front margin; the outer-lip thin; pillar- with a broad deep groove, ending in a very large deep id somewhat spiral perforation: length nearly half an inch; eadth a quarter.

Variety. With three or four pale bands on the body vo- tion which continue round the smaller ones in a single nd.

This very distinct species, which we have taken both in ublin bay and on the rocks between Teignmouth and awlish, may be easily discriminated from T. pallidulus, r its elongated shape and prominent spire, and very large oove and perforation. When placed on a table, with the ter margin in front, the T. pallidulus has a somewhat langular appearance, in consequence of the lateral volu- ns being concealed from the view, and the dilatation of e front margin. The T. Puteolus in the same position s a well rounded and rather oblique outline, with the la- ral volutions very visible, and projecting: the front mar- n is also well rounded and not dilated. The T. Lacuna s a nearly globular appearance, with the lateral volutions ther prominent.

We have found it both in Dublin bay, and on the rocks tween Teignmouth and Dawlish, in Devonshire, attached Fuci. *v. v.*

3. Turbo Lacuna. *Excavated Turban.* Fig. 87, 88, 89.

Helix Lacuna. *Montagu*, pl. 13. f. 6.
Nerita rufa. *Da Costa*, pl. 8. f. 12—*Dorset Cat.* pl. 14. f 12.
Shell nearly globular, thin, semitransparent, smooth but t glossy, covered with a thin skin: spires four, the first

very large and tumid, the others placed laterally but produced rounded and well defined: color yellowish-white or inclining to purple, with various shades of green on the second and smaller volutions; sometimes crimson, dull red, or fulvous, often without bands, but generally with from one to three deep purple or pale bands on the body volutions, which do not extend to the remaining ones or in a faint degree only; the tip sometimes clear white, but almost always with a purple tinge: aperture ample, nearly orbicular: the outer-lip extremely thin, running nearly in a straight direction at the base, by which the outer point of the pillar-lip is somewhat angular: pillar-lip with a long groove, and small but deep perforation: diameter about a quarter of an inch.

Montagu, at p. 151 of his Supplement, has erroneously, we think, considered this shell as the young of Nerita rufa, merely from the circumstance of having found it, probably in a dead state, of a thicker consistence than that which he had described as Helix Lacuna, at p. 428 of his work; acknowledging nevertheless that it differs from N. rufa, in having the groove and the perforation placed *upon* the pillar-lip, instead of the perforation being placed *behind* the pillar as in all that genus, a difference which is never known interchangeably to take place. We have examined very numerous specimens, both alive and dead, collected in various parts of England and Ireland, all corresponding with his and our own descriptions, but exceedingly variable in colors and markings; and if we are in error, we must despair of being able to procure the Helix Lacuna of Montagu. De Costa has well figured it, and admirably described it. *v.v.*

4. Turbo quadrifasciatus. *Four-banded Turban.*

Montagu, pl. 20. f. 7.

Shell somewhat conic, strong, semitransparent, rather obtuse at the point, white with a greenish tinge, covered when fresh with a slightly wrinkled skin, very minutely striate transversely: spires four or five, rounded and well defined; the first very large, with a slight keel-like ridge round the base, and generally four faint brown bands which sometimes unite and form two broader ones; on the next volution are also often two bands: aperture somewhat orbicular,

cular; the outer-lip thick, but sloping to a sharp edge; ner-lip broad, with a small groove and perforation: gth about half an inch; breadth more than half as much. On the leaves of Fuci. *v. v.*

5. Turbo canalis. *Channelled Turban.*

Montagu, pl. 12. f. 11.

Shell conic, pointed, transparent, horn-color, smooth, co- red with a wrinkled skin, and rarely marked with two own bands: spires five, rounded and well defined, the t rather large: aperture roundish, a little angular; the ter-lip very thin; inner-lip with a small groove and per- ation: length three-eighths of an inch; breadth a quar- r.

On the leaves of Fuci. *v. v.*

6. Turbo vinctus. *Banded Turban.* Fig. 92, 93.

Montagu, pl. 20. f. 3.

Shell conic, rather elongated, semitransparent, with a all but not very pointed tip, generally rufous horn-color vered with a very rough wrinkled skin: spires five or six, nded and well defined, with four or five purplish-brown chesnut bands on the body volution, and a broad space tween the three which are placed near the end and the o which are contiguous to the next volution; sometimes e color is paler, and the bands fainter and variously dis- ed, and sometimes they are altogether wanting: aper- re somewhat orbicular, rounded at the base, margined the outer skin; the outer-lip very thin: inner-lip with narrow groove which ends in a small perforation: length quarter of an inch; breadth about half as much.

In all the varieties it may be distinguished from T. cana- , by its size and elongated form, in not having the aper- re somewhat angular, and in the groove and perforation ing comparatively smaller: and from T. quadrifasciatus, being much larger longer and thinner in substance, and wanting the slight carinated ridge at the base of the ger volution. Some are also of a greenish cast between e bands, and appear finely reticulated when much mag- fied.

On the leaves of Fuci. *v. v.*

B. *The pillar-lip flattened, without groove or perforation, 7 to 15.*

7. Turbo litoreus. *Periwinkle.*

Lister, pl. 585. f. 43—*Pennant*, pl. 84. f. 1—*Da Costa*, pl. 6. f. 1—*Donovan*, pl. 33. f. 1, 2—*Linn. Trans.* viii. pl. 4. f. 8 to 11—*Dorset Cat.* pl. 17. f. 1, and pl. 19. f. 2, 3—*Walker*, f. 31.

Shell thick, strong, somewhat oval, finely pointed: spires five or six, flat and hardly raised, and separated by a fine line, more or less strongly striate or grooved circularly, sometimes nearly smooth, the first volution very large: color chocolate-brown, or various shades of red, brown, or yellow, plain or spirally banded with different colors: aperture rounded-oval; the outer-lip with a thin edge, sometimes finely notched; pillar-lip broad, white, polished: length an inch or more; breadth not so much.

The young are extremely variable in their appearance and markings, being sometimes conic and pointed, and regularly ribbed transversely, in which state they are generally found on stones in the mouths of rivers; sometimes they are nearly smooth, with a short obtuse but well defined spire, and the color black, brown, orange, red, white, banded, or chequered.

On all rocky coasts. *v. v.*

8. Turbo jugosus. *Ridged Turban.*

Montagu, pl. 20. f. 2—*Linn. Trans.* viii. pl. 4. f. 7—*Dorset Cat.* pl. 19. f. 1.

Shell somewhat oval, not much pointed: spires four, the first very large, taking in three-fourths of the shell, tumid in the middle, and marked with ten or eleven elevated circular sharp ridges which reflect a little upwards, the middle ones of which are stronger and more distinct: color fulvous or dark purple, with the ridges often white or greenish-black; inside dark purple or chocolate-brown: aperture nearly orbicular; the outer-lip thin and slightly notched by the ridges, pillar-lip broad, polished, chocolate-color: length three-eighths of an inch; breadth a quarter of an inch.

It differs from the young of the last species, in the body volution tapering a little to both ends, giving the shell a rather

rather spindle-shaped outline; and in the inner-lip not being so much spread on the pillar.

On rocks at low water. *v. v.*

9. Turbo rudis. *Sordid Turban.*

Donovan, pl. 33. f. 3—*Linn. Trans.* viii. pl. 4. f. 12, 13—*Dorset Cat.* pl. 18. f. 6.

Shell thick, strong, somewhat oval, rather pointed, smooth or very faintly striate spirally, and a little wrinkled longitudinally: spires five, much rounded and well defined by a deep separating line: color grey, greenish, reddish, or brown of various shades, and sometimes banded; inside colored, but generally white round the margin of the lip and on the pillar: aperture round-oval; the outer-lip thick, with a fine edge; pillar-lip broad, white, polished, with generally a small puncture at the base, like an incipient perforation: length three-quarters of an inch; breadth not quite so much.

It is at once distinguished from T. litoreus, by the tumid and distinctly defined volutions.

Western coasts, and Dublin bay. *v. v.*

10. Turbo tenebrosus. *Dusky Turban.* Fig. 36, 37.

Montagu, pl. 20. f. 4—*Dorset Cat.* pl. 18. f. 15.

Shell thick, conic, dark purple, often covered with a rough grey or dull ferruginous coat, frequently prettily chequered by transverse broken short buff-colored lines, which sometimes extend to the lip and give it the appearance of being notched: spires five or six, rounded and well defined, the largest covering more than half the shell, slightly striate longitudinally, and very rarely transversely in an obscure manner, ending in a rather obtuse point: aperture somewhat orbicular, very dark purple on the inside; outer-lip thin, but gradually dilating towards the pillar, which is uniformly of a dark glossy purple: length three quarters of an inch; breadth five-eighths.

It much resembles the T. rudis, but is distinguished by the dark purple hue, thin outer-lip which does not suddenly thicken from the margin, but especially in the dark purple color of the inside, which always extends over the flattened surface of the pillar.

It may also be observed, that this rare species is only found in swampy marshes which have a communication with the tide at high water, and the adjacent ditches. Within the north wall, close to the bathing house, near Dublin, are some acres of them, where neither the T. rudis, nor any other species of shell is ever found, and where they cover the mud and stones in vast profusion. *v. v.*

11. Turbo crassior, *Thick Turban,*

Montagu, pl. 20. f. 1.

Shell thick, strong, conic, opake, pointed, yellowish-white, mostly covered with a yellowish-brown wrinkled skin: spires five, rounded, distinctly and deeply divided, obscurely marked with a few spiral lines on the larger volution; inside white: aperture somewhat orbicular: pillar-lip white, sometimes wrinkled, with often a slight tendency to a groove and perforation: length half an inch; breadth nearly a quarter.

Its outline is very much like that of the T. vinctus, but it is of thicker consistence, wider in proportion to its length, and wants the pillar-groove and perforation.

Variety. With a slight spiral line or two on the body volution, giving it a rather carinated appearance; the pillar-lip smooth; and the aperture somewhat margined.

Turbo pallidus. *Donovan*, pl. 178. f. 4—*Walker*, f. 34.

Western coasts, and Dublin bay. *v. v.*

12. Turbo petræus, *Rock Turban.*

Dorset Cat. pl. 18. f. 13.

Helix petræa. *Montagu*, p. 403.

Shell conic, opake, dark-purplish brown with often irregular whitish marks and lines, especially on the outside of the pillar: spires five, hardly raised, but well defined by the line of separation, which in the junction of the body volution with the next rises in a jagged or wrinkled manner, irregularly wrinkled longitudinally, finely sloping to a point, the first volution covering two-thirds of the shell; aperture exactly oval, or pear-shaped; the outer-lip thin and sharp, and terminating rather pointedly at the top; inside dark-chocolate brown. Our Irish specimens are nearly

quarter of an inch long, and three-eighths broad ;
which we have collected on the Devonshire coast
m much above half the size.
cks, at low water. *v. v.*

rbo ziczac. *Zigzag Turban.*
, pl. 583. f. 38.
somewhat conic and pointed, white or blueish-
ostly marked with longitudinal waved purplish or
brown zigzag lines : spires six, very little raised,
striate transversely; the larger volution with a
el-like ridge at the base : aperture roundish-oval,
erally two pale bands on the inside : length a quar-
inch ; breadth about an eighth.
y. White, and without the zigzag lines.
Trans. viii. pl. 4, f. 14, 15.
by Lady Wilson, near Sunderland ; but was pro-
ly the next species, or a variety.

rbo dispar. *Discordant Turban.*
Trans. xi. pl. 13. f. 4.
strong, short, conic, rather obtuse, blueish-grey or
e-color : spires five, very little raised ; the first
e and occupying more than half the shell, smooth
obscurely striate spirally, and obliquely wrinkled ;
r volution with a slight keel-like ridge at the base ;
s small and appearing as if worn down : aperture
-oval, dark purple within with a single pale band
lower extremity ; inner-lip spreading, but not
a perforation behind it : length a quarter of an
eadth something less.
horter in proportion than the last, more obtuse,
larger volution comprising more of the shell, and
a single band within the aperture.
by the Rev. Mr. Bingley, at Poole ; and by our-
Portmarnock, in Dublin bay, and at Teignmouth.

rbo fulgidus. *Bronzed Turban.*
gu, p. 332.
somewhat conic, smooth, glossy, transparent :
spires

spires three, the first very large, variegated with white and bronze, generally in bands, terminating in a small obtuse point: aperture somewhat orbicular, with a thin margin: length half a line.

In Whitsand bay: very rare.

C. *Solid and imperforate behind the pillar*, 16 to 31.

16. Turbo monilis. *Beaded Turban.*

Shell oval, whitish, polished, transparent, rather pointed: spires five, rounded and strongly defined, the top of each quite abrupt and flattened; the larger volution with a series of raised rounded circular ribs, which gradually grow larger towards the top, the rest with fewer ribs and all of equal size, and each of them with minute longitudinal beaded lines in the interstices: aperture roundish-oval, with a strong broad margin which is beaded at the outer edge, and has a groove round the middle of it; pillar-lip a little spread, but not perforated behind it: length two-tenths of an inch; breadth one-tenth.

This very beautiful shell we described from a perfect specimen in the cabinet of Mrs. C. W. Loscombe, of Exmouth, and which was found in the adjacent sands. *v. m.*

17. Turbo graphicus. *Engraved Turban.* Fig. 34.

Brown, Wern. Soc. pl. 24. f. 6.

Shell strong, conic, pointed, transparent, light horn-color with generally two faint yellowish bands on the larger volution: spires seven, flattish and very moderately raised, finely and regularly striate throughout in a circular direction: aperture somewhat oval, with a thin even margin not reflected on the pillar: length the eighth of an inch; breadth a third of its length.

Variety. More conic, and of a paler color, with yellowish blotches on the body volution, which is larger in proportion to the rest.

A few specimens of this new and rare shell we found during our short visit to Seafield in Ireland, with Mr. Bullock. It has some resemblance to the T. insculptus, but differs in its color and sharp point, in having no duplicature or perforation at the pillar, in being more rounded and deeply divided, and in not having the small tooth. *v. m.*

18. Turbo

18. Turbo semistriatus. *Half-ribbed Turban.*

Montagu, Suppl. p. 136.

Shell thick, conic, obtuse, white or covered with a brown kin, sometimes faintly marked with interrupted brown tripes: spires five or six, slightly rounded, but well de- ned by the line of separation; the terminal half of the rger volution and both the extremities of the other cir- ılarly striate, and smooth in the middle: aperture some- hat oval, angular at the inner end; inner-lip thickened ı the pillar: length the eighth of an inch; breadth half as uch.

South of Devon: very rare.

19. Turbo semicostatus. *Half-ribbed Turban.*

Montagu, pl. 21. f. 5.

Shell conic, short, obtuse, white, sometimes transpa- nt: spires four or five, rounded and well defined by the parating line; the larger ones marked with faint longi- ıdinal ribs, not extending the whole length of the volu- on, and striate transversely where these ribs terminate, ı that the volutions are partly ribbed lengthways, and ırtly striate across; but both marks are lost on the smaller ılutions: aperture somewhat orbicular; pillar smooth, ightly reflected at the lip: length half a line; breadth alf its length.

It sometimes resembles the Turbo spiralis; but the vo- ıtions are more rounded, the ribs are coarser, and it wants ıe fold on the pillar.

Devonshire, and Seafield in Ireland: rare. *v. m.*

20. Turbo Pullus. *Spotted Turban. Fig.* 45, 46.

Da Costa, pl. 8. f. 1 and 3—*Donovan*, pl. 2. f. 2 to 6— *Dorset Cat.* pl. 14. f. 1 and 3.

Shell oval, smooth, polished, rather obtuse: spires four r five, rounded and deeply divided; the first volution very ırge: color and markings extremely variable, white or ale red with fine oblique crimson or purple lines which are ometimes undulated; sometimes it is variously blotched r spotted with white, or marked with longitudinal bands: perture large, nearly orbicular, a little produced on the ıre-part; pillar-lip rather spread, with often a small punc-

ture

ture behind it like an incipient perforation: length eighths of an inch; breadth two.

Mr. Dillwyn, in referring to the plates of Da Co the Dorset Catalogue, has quoted the figures from including within this number the Voluta Tornatilis

English and Irish coasts, on Fuci. *v. v.*

21. Turbo nivosus. *White Turban.*

Montagu, p. 326.

Shell rather slender, tapering to a somewhat point, smooth, glossy-white: spires five or six rounded and deeply divided by the line of separation ture roundish-oval; the inner-lip and pillar quite and even: length about a line; breadth not half as

The specimens which we have collected as this species, very much resemble the T. Ulvæ, but a half the size, and are distinguished by the two rounded volutions, with the pillar-lip not in the l flected, nor forming any kind of perforation behin

Western coasts, and Dublin bay. *v. m.*

22. Turbo ruber. *Red Turban.*

Linn. Trans. iii. pl. 13. f. 21, 22.

Shell conic, smooth, glossy, red-brown, pointed five, rounded, divided by a fine line: aperture s orbicular, not margined, a little reflected on th length the eighth of an inch; breadth about a th length.

It may be distinguished from the smaller spec T. Ulvæ, by the swollen and well rounded volutic number, and its glossy surface.

Variety. Quite white, and so transparent that t of the pillar may be seen through the shell.

Western coasts, and Dublin bay. *v. v.*

23. Turbo vitreus. *Glassy Turban.*

Montagu, pl. 12. f. 3.

Shell thin, transparent, white, smooth: spires fi rounded and well defined, ending rather obtusely: oval, contracted at one end; inner-lip a little th

but not reflected: length the eighth of an inch; breadth one third of its length.

It differs from the white variety of the last, in being of a more slender and somewhat cylindrical form, with the volutions much stronger and more oblique.

Western coasts, and Dublin bay: rare. *v. m.*

24. Turbo unifasciatus. *Single-banded Turban.*

Montagu, pl. 20. f. 6.

Shell conic, smooth, thick, whitish with a purplish-brown band on the larger volution, sometimes two but occupying the same space as when there is only one, and placed close to the line of separation: spires five, hardly raised, and divided by a small line: aperture roundish-oval; the outer-lip thin, turning a little outwards; pillar-lip slightly spread: length the eighth of an inch; breadth not half as much.

On the leaves of Fuci. *v. v.*

25. Turbo labiosus. *Wide-mouthed Turban.*

Dorset Cat. pl. 18. f. 16—*Pennant*, pl. 82. f. 8.

Helix labiosa. *Montagu*, pl. 13. f. 7.

Shell somewhat conic, tapering to a rather fine point, light horn-color, with often coarse white blotches, semitransparent, sometimes covered with a yellowish-brown skin, and mostly purple at the tip: spires six or seven, rarely eight, a little rounded and well defined, with from fifteen to eighteen longitudinal ribs, which are sometimes faint and sometimes strong and well rounded, extending along the upper part of the larger volution and the whole of the two next, the remaining volutions being quite smooth; the larger spires are also frequently marked with obscure oblique and often undulated brown lines: aperture glossy, oval, dilated, covering nearly half of the shell, rather oblique, produced and rounded at the bottom; the outer margin expanded, thin, and a little reflected, with a rib at the back, contracted in the throat by the thickening of the shell, and mostly edged with purplish-brown; the back a little gibbous and smooth, of a paler color; pillar-lip reflected and forming a slight cavity behind it, undulate within and forming an indenture or tooth-like elevation: length a quarter of an inch; breadth a third of its length.

Varicty.

Variety. More elongated thin and transparent, with the volutions flat and quite destitute of ribs; the outer margin of the lip thin, and not thickened withinside nor on the back.

On the English, Irish, and Scotch coasts. The variety is found at the estuaries of rivers. *v. v.*

26. Turbo Ulvæ. *Laver Turban.*

Pennant, pl. 89. f. 7—*Dorset Cat.* pl. 18. f. 12.

Shell thick, opake, rather taper and pointed, mostly covered with a coarse rough coat, grey, greenish, or dull reddish brown: spires six or seven, and even eight, flat or very little raised, but well defined by the line of separation, and faintly wrinkled longitudinally: aperture somewhat oval; the outer-lip very thin; inner-lip reflected, and forming a slight longitudinal cavity behind it: length a quarter of an inch; breadth an eighth.

Maton and Rackett, in their Corrigenda, have directed us to fig. 11 of the Dorset Catalogue, which is the Helix octanfracta.

In muddy inlets of the sea. *v. v.*

27. Turbo ventrosus. *Swollen Turban.*

Montagu, pl. 12. f. 13—*Dorset Cat.* pl. 18. f. 12. a—*Walker*, f. 36.

Shell conic, pointed, pale reddish horn-color, glossy, semitransparent, generally black on the smaller part in consequence of its containing the dead animal: spires six, rounded and well defined, very obscurely wrinkled longitudinally: the first volution very large: aperture roundish-oval; the inner-lip not reflected: length the eighth of an inch; breadth half as much.

It differs from the last in being more conic, thin, and transparent; and in the volutions being much more rounded, with the pillar-lip not in the least reflected.

Western coasts, and Dublin bay. *v. v.*

28. Turbo subumbilicatus. *Oval-mouthed Turban.*

Dorset Cat. pl. 18. f. 12. b.

Shell conic, smooth, a little glossy, rather obtuse, yellowish-white: spires four or five, much swollen, the first volution

lution covering more than half the shell: aperture exty oval; the outer-lip even; inner-lip a little reflected, d forming a slight longitudinal groove behind it: length e eighth of an inch; breadth half as much.

It differs from the last, in the small groove behind the lar, and its greater proportional breadth: from T. Ulvæ, having fewer and much more tumid volutions: and from th, in the aperture being exactly oval, and not contracted o a sharp angle at the upper end. From T. ruber it o differs, in color, in the more oval aperture, and its less nder outline.

Dorset coast, and Dublin bay. *v. m.*

29. Turbo Cingillus. *Girdled Turban.*

Montagu, pl. 12. f. 7.

Turbo vittatus. *Donovan*, pl. 178. f. 1.

Shell conic, taper, rather pointed, semitransparent: ires six, very little raised, obscurely striate transversely, rked with alternate bands of horn-color and chesnut-own, generally three of each on the larger volution, and o on the rest, the terminal ones obsolete and of a paler lor: aperture somewhat oval, contracted at the upper d; the outer-lip thin and even; inner-lip a little thick-ed, but not reflected: the old shells are not visibly stri-e: length above the eighth of an inch; breadth a third its length.

It differs from T. unifasciatus, in being of a more slen-r form, in the spiral striæ observable in perfect speci-ens, in the brown bands being darker with the interme-ate spaces not so white, and in having the pillar-lip not the least reflected.

Western coasts, and Dublin bay, on Fuci. *v. v.*

30. Turbo interruptus. *Broken Turban.*

Montagu, pl. 20. f. 8—*Donovan*, pl. 178. f. 2—*Linn. ans.* v. pl. 1. f. 16, 17.

Shell conic, rather pointed, transparent, glossy, white horn-color, with sometimes a purplish or brown tinge: ires five very slightly raised, with longitudinal interrupted hraceous streaks, most conspicuous on the two larger lutions, often forming two rows of oblong spots on the

largest: aperture somewhat orbicular; the outer-lip not very thin; inner-lip reflected on the pillar: length one third of an inch; breadth not half its length.

Variety A. Quite smooth.

Variety B. Slightly ribbed longitudinally on the second or third volution, and sometimes faintly on the primary one.

On the leaves and at the roots of Fuci. *v. v.*

31. Turbo mammillatus. *Tubercled Turban.*

Donovan, pl. 173.

Shell somewhat oval, yellowish-white, with sometimes a deeper band or two: spires five, convex, striate transversely and tubercled with raised dots, a few of which are larger, giving it a slightly angular appearance: aperture orbicular: length nearly an inch; breadth three-quarters of an inch.

Said to have been found on the Scilly rocks.

D. *Solid and perforated behind the pillar*, 32 to 34.

32. Turbo auricularis. *Ear-shaped Turban.*

Montagu, p. 308.

Shell conic, rather pointed, smooth, semitransparent, light horn-color with the tip darker: spires five, much rounded and deeply divided by the line of separation: aperture dilated, somewhat oval or ear-shaped; outer-lip thin: inner-lip reflected on the body, forming an angle about the middle, with a narrow perforation behind it: length three-eighths of an inch; breadth hardly two.

Southampton, and Dublin bay: rare. *v. m.*

33. Turbo elegans. *Elegant Turban.* Fig. 48, 49.

Lister, pl. 27. f. 25—*Montagu*, pl. 22. f. 7—*Pennant*, pl. 85. f. 2—*Da Costa*, pl. 5. f. 9—*Dorset Cat.* pl. 21. f. 9—*Walker*, f. 32.

Turbo striatus. *Donovan*, pl. 59.

Shell somewhat oval, grey or bright ferruginous with a purple tinge, sometimes marked with transverse bands or longitudinal streaks of purplish or brown: spires five, rounded and swollen, strongly striate circularly, and crossed by

finer longitudinal lines, but hardly distinctly reticulate: erture orbicular, the margin thin and faintly marked by outer striæ; pillar-lip reflected, forming a slight per- ation behind it: length five-eighths of an inch; breadth ee-eighths.

n woods, and at the roots of fern. Near Sidmouth, in vonshire, they are found imbedded in the chalk cliffs, in ind of fossile state; probably having been formerly shed down, and gradually buried in the cretaceous soil.

4. Turbo fontinalis. *Stream Turban.*

Montagu, pl. 22. f. 4—*Donovan*, pl. 102—*Dorset Cat.* 18. f. 3, 4—*Walker*, f. 56.

Shell slightly conic, rather depressed and obtuse at the thin, transparent, horn-color: spires five, much rounded deeply divided, slightly wrinkled or striate longitudi- ly, with often the appearance of a few faint circular es on the larger volution: aperture quite circular, at- ed to the body volution at one point only; the margin y thin, a little reflected at the pillar, behind which is a e and deep perforation: length sometimes a quarter of inch, and as much broad.

n canals, and slow streams. *v. v.*

B. *The spires cross-barred, or reticulate*, 35 to 56.

5. Turbo Clathrus. *False Wentletrap.*

Lister, pl. 588. f. 51—*Pennant*, pl. 84. f. 2—*Da Costa*, 7. f. 11—*Donovan*, pl. 28—*Dorset Cat.* pl. 15. f. 11.

Shell tapering to a fine point, thin, transparent, white h sometimes obscure brown transverse markings: spires or twelve, very much rounded, and so deeply divided t they appear connected by the bars only which tra- se them; these longitudinal bars are ten or twelve in nber, running rather obliquely from the base to the tip, ch raised, sometimes a little rounded, but mostly thin membranaceous, and placed at rather remote but equal ances: the interstices between them quite smooth and shed: aperture roundish-oval, thickened at the margin

by a rib, without perforation behind the pillar: length an inch and a half; breadth half an inch.

On most sandy coasts. *v. v.*

36. Turbo Turtonis. *Turton's Turban.* Fig. 97.

Shell tapering to a fine point, rather opake, pale chocolate-brown: spires from twelve to sixteen, a little rounded, but not deeply separated like the last, and barred the whole length with eleven or twelve ribs, which are flat and very little raised above the surface, and do not as in the last traverse the divisions of the volutions, but generally terminate at the line of separation; some of them are usually much stronger and broader, and irregularly striate longitudinally; the spaces between the bars very finely but distinctly striate transversely; on the body volution are three faint brown transverse bands, and two on each of the rest: aperture roundish-oval, margined; the inner-lip a little spread, without perforation, whitish and polished: length often two inches and a half; and three-quarters of an inch broad.

We had considered this shell as a mere brown variety of the last, till its specific differences were pointed out to us by Miss Turton, whose name we have attached to it: and frequent comparison and examination with our conchological friends, have induced us to consider it as distinct. It is never found mixed with the T. Clathrus: the colors are uniform; and no intermediate shades have been detected. It is of a larger size, stronger and more opake, and much more elongated and taper: the volutions, though well defined, are never deeply divided, and the ribs always flattened, not rising into thin plates, some of them broader and irregularly striate longitudinally: but above all, the spaces between the ribs are obscurely but distinctly marked with numerous close-set transverse striæ, a character not in the faintest degree observable in T. Clathrus.

In many parts of Ireland, but especially about Balbriggan, they are found crawling among the rocks. We have also observed imperfect specimens on the coast of Devonshire. *v. v.*

37. Turbo Clathratulus. *Small Wentletrap.*

Lister, pl. 588. f. 51, lower fig.—*Linn. Trans.* viii. pl. 5. f. 1—*Walker*, f. 45.

Shell slender, thin, transparent, glossy-white: spires eight

ight or nine, rounded and deeply divided, rather obtuse t the point, crossed by from fifteen to twenty extremely elicate thin raised ribs or foliations, which are close-set nd run down the whole length of the shell in a rather ob- que direction: aperture a little inclining to oval, and ightly margined: length half an inch; breadth hardly ie eighth of an inch.

Western coasts, Dublin bay, and Scotland. *v. m.*

38. Turbo elegantissimus. *Splendid Turban.*

Montagu, pl. 10. f. 2—*Walker*, f. 39.

Shell very slender and tapering to a fine point, white, mitransparent, sometimes covered with a brown skin: ires from nine to thirteen, flat but well defined, with equi- stant flattish oblique ribs running the whole length of the ell, and which are broader than the spaces between them; erture nearly orbicular, a little angular at the upper and wer ends; the inner-lip a little reflected, but without per- ration: length about a quarter of an inch; breadth not a arth of its length.

Western coasts, and Dublin bay. *v. v.*

39. Turbo simillimus. *Similar Turban.*

Laskey, Wern. Soc. i. pl. 8. f. 15.

Shell slender, white, pointed: spires eight or nine, ardly raised, with fourteen ribs or elevated striæ, which an in a straight direction along the shell, and are not rader than the spaces between them; these ribs are ightly arched, and a part of the larger volution is smooth; perture somewhat oval; length three-eighths of an inch; readth not an eighth.

On the shores of Jura: very rare.

40. Turbo unicus. *Pointed Turban.*

Montagu, pl. 12. f. 2—*Walker*, f. 40.

Shell slender, finely pointed, transparent, glossy-white; pires nine, rounded and well defined by the separating ne, with numerous fine nearly straight longitudinal ridges, hich are slightly undulated, and the spaces between them rossed with minute transverse striæ, which are hardly iscernible unless much magnified; aperture somewhat

orbicular, inclining to oval: length two-tenths of an inch; breadth hardly a third of its length.

Sandwich and Dublin bay; rare. *v. m.*

41. Turbo arenarius. *Sand Turban.*

Helix decussata. *Montagu*, pl. 15. f. 7—*Dorset Cat.* pl. 19. f. 17.

Shell slender, tapering to a fine point, strongly and regularly striate longitudinally, and crossed by very fine transverse lines: spires eight or nine, very little raised: aperture somewhat oval, contracted at both ends; the pillar-lip slightly reflected, but not perforated: length three-tenths of an inch; breadth hardly one tenth.

Western coasts and Dublin bay. *v. m.*

42. Turbo decussatus. *Lace Turban.*

Montagu, pl. 12. f. 4—*Walker*, f. 52.

Shell conic or somewhat cylindrical, ending in a rather obtuse point, glossy-white when fresh: spires five, rounded and well defined, strongly striate longitudinally, and crossed by extremely fine regular transverse lines: aperture oval, contracted at one end; the outer-lip rather thin; inner-lip not reflected nor perforated: length the eighth of an inch; breadth a third of its length.

Western coasts, and Dublin bay. *v. v.*

43. Turbo Cimex. *Latticed Turban.*

Da Costa, pl. 8. f. 6 and 9—*Donovan*, pl. 2. f. 1—*Dorset Cat.* pl. 14. f. 6 and 9.

Shell thick, strong, oblong-oval, ending rather obtusely, glossy-white or yellowish: spires four, a little rounded, and well defined by the separating line, strongly and coarsely ribbed both circularly and longitudinally, forming deep square punctures in the interstices, of which there are six rows on the larger volution, two on the next, and one on the third: aperture roundish-oval, the outer-lip thick, with six obscure teeth on the outer margin, formed by the strong transverse ribs; pillar-lip rather flat, not reflected or perforated, but furnished with a groove which extends obliquely from the lower and outer angle half way round the back, and cutting this angle into a kind of tubercle;

length two-tenths of an inch; breadth the eighth
ich.
tern coasts, and Dublin bay. *v. m.*

Turbo Calathriscus. *Rough Turban.*

agu, pl. 30. f. 5.
l conic, chesnut-brown, finely pointed: spires six,
raised, but defined by a fine separating line, strongly
l both circularly and longitudinally, forming raised
es in the intersections, of which there are eight
ı the larger volution, four on the next, and one less
successive spire, till they are ultimately lost at the
erture roundish-oval, with the margin white; outer-
ıtly toothed on the inside: pillar-lip not reflected
forated: length a quarter of an inch; breadth two-
f its length.
imens when the tubercles are worn down may be
n for the T. Cimex; but they are readily distin-
, by the more conic shape, the slightly toothed in-
ıargin of the outer-lip, and the superior number of
rows of tubercles or dots on the volutions.
land, and the west of England: rare.

Turbo Punctura. *Punctured Turban.*

agu, pl. 12. f. 5.
oval, thin, white, generally glossy, rather pointed:
ıve, swollen and well defined, with regular fine cir-
ıd longitudinal ribs, so as to resemble fine lace, and
ed in the interstices; the larger volution with
welve transverse threads, the second with six or se-
rest with fewer and less distinctly defined: aper-
ındish oval: the outer-lip thin and plain: pillar-lip
reflected, with a slight longitudinal groove behind
th two-tenths of an inch; breadth one.
ern coasts, Dublin and Bantry bays. *v. m.*

bo Zetlandicus. *Shetland Turban.*

Trans. xi. pl. 13. f. 3.
somewhat conic, obtuse, white: spires five, tumid
l defined, furnished with raised spiral lines, which
ssed with longitudinal ridges rising into angular
tubercles

tubercles at the points of section; at the base of the primary volution the spiral ridges are very prominent, and not crossed by the longitudinal ones: aperture nearly orbicular, margined, not perforated behind the pillar: length two lines; breadth one.

This species appears to differ from T. Calathriscus, in the more tumid and rounded volutions, obtuse point, the want of the longitudinal lines at the base of the larger spire, and the margined outer-lip which is plain and not slightly toothed within.

Found by the Rev. Mr. Fleming, at the Isle of Noss, in Shetland: rare.

47. Turbo striatulus. *Streaked Turban.*

Montagu, pl. 10. f. 5—*Da Costa*, pl. 8. f. 10—*Dorset Cat.* pl. 14. f. 10.

Shell somewhat oval, rather obtuse, white, semitransparent: spires four or five, swollen, flattened at the top of each; the larger one strongly striate circularly, and these striæ towards the junction of the body with the next volution rising into three distinct raised membranaceous ridges, continuing throughout the smaller ones, but in a fainter manner towards the point; between these transverse striæ are strong longitudinal ones, slightly interrupted by the ridges, and forming a faint cancelled appearance: aperture somewhat orbicular, angular at the upper part, and margined; length two-tenths of an inch; breadth not so much.

On the western coasts: very rare. *v. m.*

48. Turbo reticulatus. *Tessellated Turban.*

Montagu, pl. 21. f. 1—*Linn. Trans.* iii. pl. 13. f. 19, 20.

Shell conic, pointed, strong, opake, dirty white or dull brown; spires six, much rounded and well defined, strongly striate both longitudinally and transversely; aperture nearly orbicular, thickened by a rib; the inner-lip a little reflected, and forming a slight groove behind it: length hardly the tenth of an inch; breadth nearly as much.

It differs from the T. Punctura, in having the outer-lip thickened with a rib behind it.

Pembrokeshire, Kent, and Seafield in Ireland. *v. m.*

49. Turbo

49. Turbo marginatus. *Margined Turban.*

Laskey, Wern. Soc. i. pl. 8. f. 13.

Shell somewhat cylindrical, very strong, white, obtuse: spires six, with numerous longitudinal ribs which are continued over the separating line, and finely striate circularly: aperture oval; the outer-lip extremely thick, and rounded by a rib at the back: length three-eighths of an inch; breadth a fourth of its length.

It differs from T. reticulatus, in its size and much more slender shape, and in the longitudinal ribs crossing the line of junction.

At Guernsey: very rare.

50. Turbo striatus. *Striated Turban.*

Linn. Trans. iii. pl. 13. f. 25, 26—*Walker*, f. 49.

Shell cylindrical, slender, often elongated and curved, moderately pointed, transparent, glossy-white, with often pale ferruginous marks, sometimes entirely of a pale rust color, covered when fresh with a brown skin: spires six, rounded and well defined by the separating line, covered with numerous extremely fine transverse striæ, which are sometimes worn down so as to give the shell a polished appearance, and faintly ribbed longitudinally on the upper part of some or all the volutions, which often form a slight bead-work round the line of junction: aperture roundish-oval, margined; the outer-lip thin; inner-lip not reflected: length above the tenth of an inch; breadth a third of its length.

On sea weed, and in drifted sand. *v. v.*

51. Turbo coniferus. *Conic Turban.*

Montagu, pl. 15. f. 2—*Dorset Cat.* pl. 19. f. 6.

Shell white, strong, taper, rather obtuse at the point: spires six, flat but well defined by the separating line, with about twelve strong undulate longitudinal ribs, which at the junctions of the volutions have small cavities between them, giving the line of separation a denticulate or slightly beaded appearance, and continuing circularly round them; the ribs crossed by very fine transverse striæ: aperture oblique, oval, strongly margined, not reflected at the pillar:

lar: length a quarter of an inch; breadth one third of its length.

Found by Mr. Bryer, at Weymouth.

52. Turbo denticulatus. *Denticled Turban.*

Montagu, p. 315.

Shell conic, rather obtuse, white, semitransparent: spires six, with nine or ten strong coarse longitudinal ribs, not undulate nor striate in the interstices, but running obliquely, and forming strong tubercles round the lines of junction: aperture orbicular; the outer-lip not margined, but thickened by a rib; pillar-lip smooth, indented, with a small tubercle or two at the base close to the ribs: length not quite a quarter of an inch; breadth half its length.

From the last it differs, in having fewer ribs, which run obliquely and are not undulated, in wanting the fine transverse striæ between them, and in the aperture which is not strictly margined, but thickened with a rib behind it.

Found at Weymouth, by Mr. Bryer.

53. Turbo Bryereus. *Bryer's Turban.*

Montagu, pl. 15. f. 8—*Dorset Cat.* pl. 19. f. 7.

Turbo costatus. *Donovan*, pl. 178. f. 3.

Shell strong, conic or rather elongated, pointed, glossy-white: spires seven, rather rounded and well defined, with seventeen or eighteen fine longitudinal ribs, which are scarcely interrupted by the line of junction, and not striate transversely: aperture oval, the outer-lip strong, not margined nor reflected; pillar-lip smooth, a little turned back, but not perforated behind it: length hardly a quarter of an inch; breadth a third of its length.

Variety. With stronger and fewer ribs, not exceeding ten or twelve in number.

Weymouth, Margate, and Dunbar. *v. m.*

54. Turbo costatus. *Ribbed Turban.*

Montagu, pl. 10. f. 6—*Linn. Trans.* iii. pl. 13. f. 13, 14—*Dorset Cat.* pl. 19. f. 5—*Walker*, f. 47.

Shell conic, a little tapering, rather obtuse, glossy-white, semitransparent: spires five, rounded and well defined by the separating line, with eight or nine strong distant longitudinal

gitudinal ribs running rather obliquely, each of which has a groove down the middle, giving them an appearance of being doubled, and very finely striate transversely, chiefly between the ribs: aperture nearly orbicular; the outer-lip a little dilated, bordered by a strong prominent rim which has a groove in the middle of it; and at the inner angle of the aperture, near the junction of the first and second volutions, is a ridge running transversely backwards, and turning downwards, till it joins the margin of the lip behind; this ridge is bordered by a fine depressed line at the end where the longitudinal ribs terminate; length the eighth of an inch; breadth a third of its length.

On sea weed, and in drifted sand. *v. v.*

55. Turbo parvus. *Small Turban.*

Walker, f. 43—*Dorset Cat.* pl. 19. f. 4.

Turbo subluteus. *Linn. Trans.* iii. pl. 13. f. 15, 16.

Turbo æreus. *Linn. Trans.* iii. pl. 13. f. 29, 30.

Turbo lacteus. *Donovan*, pl. 90.

Shell strong, conic, opake, white, chesnut-brown, or pale rufous, sometimes spotted, or dark brown with white ribs: spires six or seven, rounded and well defined, with about twelve strong obtuse equidistant ribs, which sometimes run the whole length of the shell, sometimes down one or two of the larger volutions, and frequently along the lesser volutions only, and have occasionally the appearance of being grooved down their middle; the interstices between them quite smooth: aperture roundish; the outer-lip thickened by a rib; inner-lip a little reflected, but not perforated behind the middle: length the eighth of an inch; breadth not half its length.

On the leaves, and among the roots of Fuci. *v. v.*

56. Turbo indistinctus. *Indistinct Turban.*

Montagu, Suppl. p. 129.

Shell somewhat cylindrical, obtuse, glossy-white: spires five or six, nearly flat, but well defined by the separating line, finely striate longitudinally, and punctured in the interstices, observable only when much magnified, but not crossing the longitudinal ridges: aperture inclining to oval; pillar-lip smooth and a little spread: length the tenth of an inch; breadth a third of its length.

It

It is known from the T. interstinctus, by the want of the small tooth on the pillar, and the punctures or transverse lines between the ribs.

Found in the Boysian cabinet.

F. *Tapering, not cross-barred nor reticulate,* 57 to 66.

57. Turbo duplicatus. *Double-ribbed Turban.*

Lister, pl. 591. fig. 58—*Pennant,* pl. 84. f. 3—*Donovan,* pl. 112—*Da Costa,* pl. 6. f. 3.

Shell taper, whitish or greyish horn-color, with fourteen or fifteen spires, each furnished in the middle with two rather remote prominent acute spiral ridges, and finely striate longitudinally in the interstices: aperture somewhat oval: length two inches and a half; breadth not half an inch.

At Scarborough, by Lister; and is said to have been lately discovered on the western coasts, by Dr. Leach: very rare.

58. Turbo exoletus. *Marbled Turban.*

Lister, pl. 592. f. 60—*Da Costa,* pl. 7. f. 8.

Turbo cinctus. *Donovan,* pl. 22. f. 1.

Shell taper, pointed, white or tinged with purple, and marbled with chesnut-brown, generally in longitudinal waved streaks: spires twelve or fourteen, rather raised and separated by a deep line, obscurely striate circularly, with two raised obtuse spiral ridges in the middle of each, and placed near together: aperture orbicular; length two inches and a half; breadth five-eighths of an inch.

Kent, Lancashire, and Lincolnshire: very rare.

59. Turbo Terebra. *Screw Turban.* Fig. 83.

Lister, pl. 591. f. 57—*Pennant,* pl. 84. f. 4—*Da Costa,* pl. 7. f. 5, 6—*Donovan,* pl. 22. f. 2—*Dorset Cat.* pl. 15. f. 5, 6.

Shell long, tapering to a fine point, light brown, rufous, cream-color, or of a leaden hue: spires from twelve to sixteen, mostly well rounded and deeply defined by the separating line, but sometimes rather flat, faintly wrinkled, and marked with numerous fine circular striæ, some of which

which are more prominent, but occasionally all of the same size and elevation, and uncertain in their number: aperture orbicular; the outer-lip thin and brittle, and semi-transparent: inner-lip sometimes reflected and forming a slight groove behind it.

On most sandy shores. In Dublin bay we have found it more than two inches long and half an inch wide, with sixteen perfect volutions: and in the cabinet of Mrs. C. W. Loscombe, of Exmouth, we observed a glossy transparent variety, which came from Scilly. *v. v.*

60. Turbo Ascaris. *Vermicular Turban.*

Shell extremely slender, tapering to an exceedingly fine point, milk white, semitransparent: spires seven or eight, rounded and well defined by a deep depression, each with four or five regular equidistant and rather deep spiral grooves: aperture nearly orbicular, the inner-lip a little reflected: length not the tenth of an inch; breadth a fourth of its length.

It is impossible to mistake this minute and very elegant species for the young of T. Terebra, which is always opake and horn-color, suddenly tapering to an obtuse point, with the ribs coarse, three or four of them much raised above the rest, and the interstices regularly striate: the spires are also less rounded and defined than in the present species.

Seafield on the Atlantic, in Ireland: rare. *v. m.*

61. Turbo nitidissimus. *Transparent Turban.*

Montagu, pl. 12. f. 1.

Shell extremely slender, tapering to a minutely fine point, white, transparent, quite smooth: spires nine, very much raised and rounded, separated by a deep line of junction: aperture nearly orbicular; the inner-lip a little reflected: length the eighth of an inch; breadth a fourth of its length.

Western coasts, and Dublin bay: rare. *v. m.*

62. Turbo politus. *Polished Turban.*

Pennant, pl. 82. f. 1—*Dorset Cat.* pl. 19. f. 15.

Turbo albus. *Donovan*, pl. 177.

Shell strong, ivory white, polished, quite smooth, ta-

pering to a fine point, sometimes slightly curved, and frequently tinged with rufous brown: spires from nine to thirteen, very flat, with hardly any visible separating line: aperture oval, ending in a sharp point; the outer-lip thick but not margined, prominent and rounded in the middle, and sloping to both ends; inner-lip reflected: length three-quarters of an inch; breadth hardly a quarter of an inch.

On the western coasts. *v. m.*

63. Turbo subulatus. *Awl-shaped Turban.*

Donovan, pl. 172—*Dorset Cat.* pl. 19. f. 14.

Shell yellowish white, or dull red, smooth, glossy, slender and tapering to a very fine point: spires about ten, quite flat, with hardly any visible line of junction, each marked with two faint yellowish spiral bands winding round the volutions, which become obsolete towards the point: aperture narrow oval, contracted at the inner angle, and rounded at the top: length half an inch; breadth not a third of its length.

Western coasts, and Dunbar: rare. *v. m.*

64. Turbo subtruncatus. *Obtuse Turban.*

Montagu, pl. 10. f. 1.

Shell tapering to a rather obtuse point, yellowish-white, transparent and often a little glossy, smooth or faintly striate longitudinally: spires six or seven, rounded and separated by a deep depressed line: aperture somewhat orbicular, inclining to oval: length two-tenths of an inch; breadth a fourth of its length.

Western coasts, and North Britain: rare.

65. Turbo truncatus. *Abrupt Turban.*

Montagu, pl. 10. f. 7—*Dorset Cat.* pl. 19. f. 8.

Shell cylindrical, smooth, horn-color, glossy, transparent, abrupt at the point as if broken off: spires four, rarely five, much raised and divided by a deep depressed line, sometimes slightly striate at the margin of the volutions: aperture rather oval, slightly margined; the inner-lip reflecting a little on the pillar: length two-tenths of an inch; breadth a third of its length.

Western coasts, and North Britain. *v. m.*

66. Turbo

66. Turbo disjunctus. *Disjointed Turban.*

Laskey, Wern. Soc. i. pl. 8. f. 3.

Shell rather slender, pointed, white, quite smooth: spires x, very much swollen, divided by a very broad and deep and, which is flat at the bottom or concave in a slight de- ree, and not angular as in most other shells, giving the olutions the appearance of being disunited: aperture early orbicular; the pillar-lip reflected, with a perforation ehind it: length hardly a quarter of an inch; breadth a ird of its length.

On the Scotch coast: very rare.

G. *The aperture toothed within: spires regular,* 67 to 78.

67. Turbo Tridens. *Trident Turban.*

Montagu, pl. 11. f. 2—*Laskey, Wern. Soc.* i. pl. 8. f. 11 —*Dorset Cat.* pl. 19. f. 12.

Shell somewhat cylindrical, tapering to a rather obtuse oint, smooth, glossy, light brown: spires six or seven, at and distinguishable only by the line of separation: perture small, rounded at the base, slightly contracting wards the top, a little curved; the outer-lip with a single oth at the margin; pillar-lip slightly reflected, with two eth, which sometimes alternate with two much smaller es: dead shells become white: length about a quarter an inch; breadth a third of its length.

Caroline Park, near Leith; and lately in the neighbour- ood of Eton: very rare.

68. Turbo Juniperi. *Juniper Turban.*

Montagu, pl. 12. f. 12—*Dorset Cat.* pl. 19. f. 11.*

Shell somewhat cylindrical, tapering to a rather obtuse int, and a little narrowed towards the aperture, brown, ake: spires eight or nine, a little rounded and well de- ied by the line of separation, striated longitudinally in an ique direction: aperture somewhat orbicular, white argined and reflected, with three ridge-like teeth on the ter-lip, and four on the pillar, behind which is a large ca- ty at the base; the margin of the aperture does not quite

sttach to the body of the volution: length more than a quarter of an inch; breadth not half its length.

At the roots of juniper bushes: very rare.

69. Turbo Muscorum. *Cylindrical Turban.* Fig. 73.

Montagu, pl. 22. f. 3—*Da Costa*, pl. 5. f. 16—*Donovan*, pl. 80—*Dorset Cat.* pl. 21. f. 16.

Shell nearly cylindrical, very obtuse, dark horn-color, glossy, transparent: spires six, rounded and well defined by the separating line, finely striate or wrinkled longitudinally: aperture somewhat orbicular, a little produced at the base, with a broad flat glossy-white margin, and a tooth close to the front of the mouth and placed near the outer-lip, appearing as if it were a curved continuation of the outer rim; pillar-lip with a large and deep perforation behind it: length rather more than the eighth of an inch; breadth a third of its length.

The unformed shells have the base and the aperture shaped much like a Trochus.

Among dry moss; under stones; and in old walls. *v.v.*

70. Turbo Chrysalis. *Aurelia Turban.*

Shell cylindrical, very obtuse, nearly opake, yellowish white or pale horn-color: spires seven, rounded, wrinkled and shaped like the last: aperture orbicular, inclining to a crescent-shape, and not produced at the base; the outer edge very thin, and not in the least margined, on the back of which is a strong raised rounded rib extending from the outer angle to the perforation behind the pillar; the tooth is either very obscure or very minute, placed far within the mouth, exactly in the centre between the two lips, and not near one side as in the last: length two-tenths of an inch; breadth not a third of its length.

This species, so very distinct from T. Muscorum, and for which it has questionless been overlooked, is an inhabitant of the banks of rivers and marshy flats subject to be overflowed, and from whence they are carried down by floods. It is never found mixed with the last, from which it may be known at a single glance, by its larger size, more cylindrical form, and yellowish-white or cream-colored hue.

The

rp margin of the lip, the strong rib behind it, and tion of the tooth distinguish it specifically. We ained it in great abundance, on the sand banks at nock in Ireland, and among the rejectments of ri- England. *v. v.*

urbo sexdentatus. *Six-toothed Turban.*

gu, pl. 12. f. 8—*Dorset Cat.* pl. 19. f. 12.*
oval, horn-color, semitransparent, obtuse: spires ttle rounded, faintly striate longitudinally: aperture at triangular and distorted, projecting and rounded pper and outer angle, slightly margined and re- with a small rib behind it as in T. Chrysalis; the) rather angular, with four obscure teeth; pillar-lip) teeth, and a slight perforation behind it: length 1 of an inch; breadth half its length.
ut a close examination of the aperture, this spe- be easily overlooked for the young of T. Musco- he teeth are so obscure as hardly to be manifest considerable magnifying powers, and the younger ve only four.
e water-flag: rare. *v. v.*

urbo Carychium. *Minute Turban.*

gu, pl. 22. f. 2—*Dorset Cat.* pl. 19. f. 13—*Walker*,

oblong-oval, glossy-white, transparent, obtuse: e, rounded and well defined, finely striate obliquely: oblong-oval, oblique, compressed, and margined; r-lip thickened on the inside by a protuberance iddle; pillar-lip a little angular and reflected, with h, and sometimes the rudiment of a third above ithout perforation behind it; length hardly the a line; breadth nearly half its length.
anks: under decaying wood; and in drifted sand.

urbo insculptus. *Sculptured Turban.*

gu, Supplement, p. 129.
taper, white, semitransparent, obtuse: spires five a little raised, with fine regular circular striæ:

aperture somewhat oval; the pillar-lip a little reflected, with a small perforation behind it, and furnished with an obscure tooth-like fold: length above the eighth of an inch; breadth hardly the third of its length.

It differs from our T. graphicus, both in color and its tooth.

On the Devonshire coast: rare. *v. m.*

74. Turbo spiralis. *Spiral Turban.*

Montagu, pl. 12. f. 9—*Walker*, f. 46.

Shell conic, glossy-white, transparent, rather obtuse: spires four or five, slightly raised but well defined by the line of separation which is marked by a fine spiral ridge; the larger volution marked with transverse circular lines half way from the base, the other half finely ribbed longitudinally, as are the whole of the others: aperture somewhat orbicular, with a small tooth-like fold on the pillar: length a line; breadth half its length.

Western coast: rare. *v. m.*

75. Turbo unidentatus. *Single-folded Turban.*

Montagu, p. 324.

Shell conic, rather taper, smooth, glossy-white: spires six, not much raised but well defined: aperture exactly oval; the outer-lip thin; pillar-lip a little reflected, with a small perforation behind it, and a single fold on the inside near the middle: length two-tenths of an inch; breadth half its length.

Western coasts, and Dublin bay. *v. v.*

76. Turbo plicatus. *Plaited Turban.*

Montagu, pl. 21. f. 2.

Shell rather slender, smooth, glossy-white, semitransparent, somewhat obtuse spires six, nearly flat, but well defined and separated by a fine line: aperture oval; the outer-lip rather thickened, with a small perforation behind it, and a single strong tooth-like fold extending across the pillar and giving it a somewhat angular appearance on the upper part: length the eighth of an inch; breadth a third of its length.

Western coasts and Dublin bay. *v. m.*

77. Turbo pallidus, *Pale Turban.*

Montagu, pl. 21. f. 4.

Shell rather slender, smooth, white, sometimes with a greenish hue or covered with a rough coat: spires six or seven, flattish but well defined: aperture somewhat orbicular, the outer-lip extremely thin, arched or much produced towards the pillar; pillar-lip reflected, with a small perforation behind it, and an obscure tooth-like fold in the middle on the inside: length above the eighth of an inch; breadth a third of its length.

It is difficult to specify the precise differences between these three last species: but as far as we understand them from specimens before us, and which are all evidently distinct, the Turbo unidentatus has the aperture exactly oval, with the tooth placed on the inside in the middle; the T. plicatus has a strong fold quite across the pillar, and near the base; the T. plicatus differs from both, in the much produced outer-lip and somewhat orbicular aperture, giving the base of the shell a more flattened appearance.

Western coasts, and Dublin bay. *v. m.*

78. Turbo interstinctus. *Rosy-tipped Turban.*

Montagu, pl. 12. f. 10—*Linn. Trans.* iii. pl. 13. f. 23, 24.

Shell taper, obtuse, glossy-white, with generally a purple or rosy tinge at the tip: spires five, very little raised, but divided by a fine line, and marked with fine longitudinal ribs: aperture somewhat oval; the pillar-lip a little reflected, with a small tooth: length a line; breadth a third of its length.

Western coasts, in fine sand. *v. m.*

We cannot here avoid entering our strongest protest against the arbitrary removal of these six last species into the genus Voluta, by modern compilers, in violation, as we are of opinion, of that natural alliance which in all doubtful cases should be ultimately decisive. If the mere circumstance of the aperture being furnished with folds or teeth be alone a characteristic, then might the whole of this division, and some others of a more remote family be arranged as Volutes. But independently of this incident, we consider it as essential to the genus Voluta, that the aperture be elongated, taking in at the least one half of the shell, with a cor-

a correspondent enlargement of the primary volution, as answering to its necessary character, "apertura subeffusa," or having the aperture narrow and much extended. These shells therefore, under our consideration, having the aperture more or less oval or orbicular, and the primary volution not larger than its usual proportion to the others, naturally fall into this division of the genus Turbo.

H. *With the spires reversed,* 79 to 85.

79. Turbo bidens. *Two-toothed Turban.*

Pennant, pl. 84. f. 5—*Linn. Trans.* viii. pl. 5. f. 3.

Shell tapering, smooth, brown, transparent: spires ten or eleven, armed with a series of small white bead-like projections which wind spirally round the junctions of the volutions, giving this part a slightly crenate or notched appearance: aperture oval, with two teeth placed deep within the mouth: length about half an inch; breadth a fourth of its length.

Found in the Pulteney cabinet, supposed to be from Dorsetshire.

80. Turbo laminatus. *Laminated Turban.* Fig. 70.

Montagu, pl. 11. f. 4—*Dorset Cat.* pl. 19. f. 9.

Shell tapering to a round point, swelling a little above the mouth, reddish horn-color, transparent, smooth or very obscurely wrinkled, with ten rather raised and well defined volutions: aperture somewhat orbicular, contracted at the upper and outer margin, at which part it joins the body volution; the outer-lip white, slightly margined and reflected; pillar-lip a little thickened, not raised nor detached from the body of the larger volution, with two white tooth-like folds, and deep within the mouth are three or four prominent ridges, only visible within the shell when held up before the light: length three-quarters of an inch; breadth a fourth of its length.

Woods in Wiltshire and Kent: rare. *v. m.*

81. Turbo biplicatus. *Folded Turban.*

Montagu, pl. 11. f. 5.

Shell taper, opake, brown, a little swollen above the mouth,

mouth, strongly and regularly striate the whole length in a rather oblique direction, with twelve or thirteen rather raised and well defined volutions: aperture somewhat orbicular, much compressed at the upper part, and a little so at the base; the lips rather thick, white, and reflected, and the margin connected all round; pillar-lip prominent, detached from the body, with two white tooth-like folds near each other: length three-quarters of an inch; breadth a fourth of its length.

It differs from the last, in not being transparent in its regular striæ, and the angle of the aperture not joining the larger volution.

Woods in Wiltshire, at the roots of trees. *v. m.*

82. Turbo nigricans. *Dark Turban.*

Pennant, pl. 85. f. 3—*Dorset Cat.* pl. 19. f. 10.

Turbo bidens. *Montagu*, pl. 11. f. 7.

Turbo perversus. *Donovan*, pl. 72.

Shell taper, blackish or dark chocolate-brown, opake, finely and regularly striate longitudinally in a rather oblique direction, a little swollen above the mouth, with eleven or twelve very little raised but well defined volutions: aperture roundish-oval, compressed at the upper part into an oblique angle, where it is detached from the body volution; the margin whitish, obtuse, but not flattened nor reflected, behind which are two raised ridges on the back with a depression between them, and a deep groove down the side of the lip where the teeth are placed: the teeth are two membranaceous folds, seated deep in the mouth; one of them prominent, the other more interior and less distinguishable: length about half an inch; breadth a fourth of its length. Old shells become grey.

It differs from the last and the next, in color, in the margin of the aperture not being flattened nor reflected, and in the ridges behind the mouth.

Shady woods, under stones, and in old walls. *v. v.*

83. Turbo labiatus. *White-lipped Turban.*

Montagu, pl. 11. f. 6—*Da Costa*, pl. 5. f. 15—*Dorset Cat.* pl. 21. f. 15.

Shell taper, light brown, opake, a little swollen above the

the mouth, strongly and regularly striate longitudinally in a nearly straight direction, with nine flat volutions divided by a very fine line only: aperture somewhat orbicular, with a deep impression at the upper end; the margin very broad, thick, white, and much reflected; pillar-lip a little detached from the body, with two tooth-like folds: length five-eighths of an inch: breadth one-eighth.

In Hyde Park, and Battersea: very rare.

84. Turbo perversus. *Reversed Turban.*

Montagu, pl. 11. f. 12—*Linn. Trans.* viii. pl. 5. f. 2—*Dorset Cat.* pl. 19. f. 11.

Shell slender, tapering to a rather obtuse point, yellowish or greenish horn-color, obscurely wrinkled longitudinally but not regularly striate, with eight or nine rather rounded and deeply divided volutions: aperture somewhat orbicular, with a thin white margin; the outer-lip a little reflected; pillar-lip not detached nor reflecting on the body, generally without teeth, but in old shells may be observed an obscure round knob or tubercle at the edge of the upper angle: length about a quarter of an inch; breadth a fourth of its length.

On the trunks and in the bark of trees, and in old walls. *v. v.*

85. Turbo Vertigo. *Wry-mouthed Turban.*

Montagu, pl. 12. f. 6.

Shell oval or somewhat cylindrical, obtuse, brown, opake, with five rather rounded and well defined volutions, faintly striate longitudinally: aperture somewhat triangular, with the angles rounded, slightly margined and indented or toothed, with one white tooth on the outer-lip, and two on the pillar, besides a laminar protuberance at the angle of the outer-lip: sometimes there are six teeth, and even the rudiment of a seventh: length half a line: breadth half its length.

It has much the contour of T. sexdentatus, but is less, has the volutions reversed, and differs much in the aperture and teeth.

Ivy-clothed walls at Sandwich, and drifted sand of the Avon. *v. m.*

I. *Flat*,

I. *Flat, and resembling the Helix*, 86 to 92.

86. Turbo Calcar. *Rowel Turban.*

Montagu, pl. 29. f. 3.

Shell flat, pale pink: spires four, depressed on the upper de so as to form a flat but not a sunken surface, with bout thirteen large smooth lanceolate spines round the ody volution and part of the second, which radiate in raight lines from the shell; the base convex and perfo- ated: aperture orbicular: diameter a quarter of an inch.

Found by Captain Laskey, on the island of Iona: very are.

87. Turbo cristatus. *Crested Turban.*

Helix cristata. *Montagu, Vignette*, 1. f. 7, 8—*Walker*, 18.

Shell flattish, semitransparent, light horn-color, rather lossy, often covered with a thin skin, very little sunk at ie top, flat and perforated underneath: spires three or ur, very much rounded and deeply divided, finely and osely striate transversely: aperture quite orbicular, at- ched to but not clasping the body volution, the margin t thinner than the rest of the shell, and placed very little bliquely: diameter the tenth of an inch.

It differs from T. depressus, and T. serpuloides, in its ose and regular striæ.

Ditches and watery places. *v. v.*

88. Turbo Nautileus. *Nautilus Turban.* Fig. 78.

Linn. Trans. viii. pl. 5. f. 4—*Dorset Cat.* pl. 19. f. 16.

Helix Nautileus. *Montagu*, pl. 25. f. 5—*Walker*, f. 20,

Shell flattish, semitransparent, horn-color, generally co- ered with a brown skin: spires three or four, hardly rising ie above the other, furnished with distant elevated longi- dinal annulations, and sometimes with a small transverse lge which frequently shoots into spines and forms a kind crest on the back; the base flat and perforated: aperture bicular, as if abruptly cut off, not attached to the body, metimes a little clasping the volution, and rarely drawn to a somewhat oval shape: diameter the eighth of an inch.

Ditches and ponds, on the under surface of plants. *v. v.*

89. Turbo

89. Turbo paludosus. *White Turban.*

Helix paludosa. *Linn. Trans.* viii. pl. 5. f. 5—*Dorset Cat.* pl. 19. f. 25—*Walker*, f. 23.

Shell white or very pale horn-color, semitransparent, a little convex on the upper side, with a large and deep perforation on the other: spires four, rounded and well defined, obscurely striate across: aperture quite circular, very slightly attached to the body volution, with a thick opake white reflected margin: diameter the tenth of an inch.

Variety. The spires striate or annulate with membranaceous ridges.

Helix Crenella. *Montagu*, pl. 13. f. 3.

Marshes, and drifted sand. *v. v.*

90. Turbo depressus. *Depressed Turban.*

Helix depressa. *Montagu*, pl. 13. f. 5.

Shell flattish, very thin, transparent, pale horn-color, blackish where any part of the animal is attached, slightly wrinkled across: spires three or four, a little raised on the upper side and rounded and well defined; the base convex, with a large perforation exposing the interior volutions: aperture orbicular, not clasping the body, but placed a little obliquely and slightly spreading at that part; the margin prominent and very thin: diameter not half a line.

This very minute species we find in the crevices of the rocks about Teignmouth, at low water. To obtain them alive we are obliged to detach small fragments of the rock, and examine the pieces with a good glass. They something resemble the Helix umbilicata, but the upper volutions are not so prominent and well defined, and they are hardly a fourth part the size, presenting on a card a mere dark speck. In Bantry bay we have found them of a fine bronze color. *v. v.*

91. Turbo Serpuloides. *Flat Turban.*

Helix Serpuloides. *Montagu*, pl. 21. f. 3. *Walker*, f. 27.

Shell flat, white, glossy, smooth: spires three or four, nearly flat and level on both sides; the upper surface being very slightly raised; the under side with a large and deep perforation exposing the interior volutions: aperture orbicular,

ılar, slightly adhering to but not clasping the body volu-
on, the margin not very thin: diameter the tenth of an
ch.
Western coasts: and in Dublin bay we have found them
ıable the size. *v. m.*

92. Turbo Margarita. *Pearl Turban.*
Helix Margarita. *Laskey, Wern. Soc.* i. pl. 8. f. 5.
Shell flattish, rather produced at top, white or with a
ight tinge of bronze, with a faint rufous brown band on
ıe upper part of the body volution, which follows the
ırse of the next, but is lost in the third: spires four or
re, convex beneath, with a large and deep perforation:
ıerture somewhat orbicular, a little crescent-shaped, finely
ıcred on the inside: diameter hardly a line.
Found by Captain Laskey, on the Scotch coast: very rare.

K. *Indistinct and uncertain species*, 93 to 105.

93. Turbo retiformis. *Walker*, f. 37.
Shell white, opake, with four white opake reticulate
ires: aperture rather oval.
At Sandwich: minute.

94. Turbo fuscus. *Walker*, f. 42.
Shell brown, opake, with five striate spires: aperture
mewhat oval.
Bysing wood, near Faversham: minute.

95. Turbo strigatus. *Walker*, f. 38.
Shell white, opake, with three spires, and three transverse
lges on the larger volution: aperture somewhat oval.
At Seasalter: minute.

96. Turbo Carinatulus. *Walker*, f. 44.
Shell taper, carinate, white, opake, with seven spires:
erture contracted, margined.
At Sandwich: minute.

97. Turbo Rivulus. *Walker*, f. 57.
Shell white, opake, with four spires: aperture oval, mar-
ıed.
From a stream near Faversham; minute.

98. Turbo Sandvicensis. *Walker*, f. 55.

Shell white, transparent, with three reticulate spires: aperture oval, with a single tooth.

At Sandwich: minute.

99. Turbo lævis. *Walker*, f. 35.

Shell oval, obtuse, white, transparent: spires three, reversed, rounded; the first very large: aperture roundish.

From Reculver: minute.

100. Turbo albulus. *Linn. Trans.* iii. pl. 13. f. 17, 18.

Shell opake, with five longitudinally ribbed spires: aperture roundish, not margined.

Pembrokeshire coast: minute.

101. Turbo scriptus. *Linn. Trans.* iii. pl. 13. f. 11, 12.

Shell smooth, opake, with three spires, marked with brown lines resembling those on the Lichen scriptus: aperture roundish.

Pembrokeshire coast: minute.

102. Turbo subarcuatus. *Linn. Trans.* iii. pl. 13. f. 27, 28.

Shell white, transparent, a little curved towards the tip, with ten longitudinal ribbed spires.

Pembrokeshire coast: minute.

103. Turbo Adamsii. *Linn. Trans.* iii. pl. 13. f. 31, 32. T. elegans.

Shell with six spirally striate volutions, and remotely ribbed longitudinally: aperture oval.

Pembrokeshire coast: minute.

104. Turbo divisus. *Linn. Trans.* iii. p. 254.

Shell white, transparent, with four spires, each divided into two parts; the upper part smooth; the lower part striate circularly: aperture somewhat oval.

Pembrokeshire coast: minute.

105. Turbo subrufus. *Linn. Trans.* v. pl. 1. f. 18, 19.

Shell dull red, smooth, opake; spires five, somewhat angular on the upper part, where each is marked with a white transverse band.

Pembrokeshire coast: minute.

VENUS.

Shell with two valves: hinge with three teeth, ll near together; one of them placed longitudi- ally, and inclining outwards.

A. *Somewhat heart-shaped,* 1 to 19.

B. *Somewhat orbicular,* 20 to 25.

C. *Oval, and mostly angular on the cartilage side,* 26 to 35.

A. *Somewhat heart-shaped,* 1 to 19.

1. Venus spinifera. *Spinous Venus.*

Montagu, pl. 17. f. 1.

Shell somewhat oval and rather triangular, yellowish- hite, with numerous fine raised parallel equidistant con- ntric ridges, which reflect a little, and at the anterior des in both valves become confluent in pairs, so as to form hort obtuse spines, which turn back and make a deep ca- ity for the cartilage: beaks small, nearly central, a little clining to one side, with an elongated heart-shaped de- ression under them; inside smooth, white, with the mar- n plain; in one valve a single strong tooth, with a small vity and a remote lateral plate on each side; in the other lve two teeth, without the lateral plates: length half an ch; breadth rather more.

Some of the young shells of V. Gallina much resemble is, but the plain margin and the disposition of the teeth once distinguish it.

South of Devonshire: rare. *v. m.*

2. Venus verrucosa. *Warty Venus.*

Lister, pl. 284. f. 122—*Pennant,* pl. 57. f. 1—*Da Costa,* 12. f. 1—*Linn. Trans.* vi. pl. 17. f. 5, 6—*Donovan,* pl. 44 *Dorset Cat.* pl. 8. f. 1.

Venus cancellata. *Donovan,* pl. 115. The young shell.

Shell strong, thick, very convex, roundish but a little duced on the anterior side, rugged, with strong raised n transverse ridges, which turn a little upwards towards hinge, a little waved on their edges, and broken to-

wards the sides, especially the anterior side, into irregular wart-like knobs; these ridges have generally their outer-surface and the interstices transversely striate, and towards the hinge the spaces between the ridges are striate longitudinally: beaks curving much to one side, with a broad heart-shaped depression on the posterior slope; the anterior slope of one valve turns suddenly in, and is finely striate longitudinally, and marked with brown transverse streaks: color dirty white, more or less tinged with rufous-brown; inside smooth, white, with the margin finely notched: length two inches and a half; breadth rather more.

Young shells are flatter, much thinner, not much tubercled, broader in proportion to the length, and the spaces between them are entirely crossed by fine lines. A comparison of the young shell, or what has been called V. cancellata, with one of full growth, will instantly bring conviction of their identity, especially if one of intermediate size be interposed. With the former, Mr. Dillwyn has joined the V. laminosa, a shell of a totally different figure and appearance, and even the V. Casina to form his V. cancellata.

English, Irish and Scotch coasts. *v. v.*

3. Venus Casina. *Casina Venus.*

Lister, pl. 286. f. 123—*Pennant*, pl. 57. f. 2—*Da Costa*, pl. 13. f. 4, left hand fig.—*Linn. Trans.* viii. pl. 2. f. 1.

Shell thick, convex, white, with more or less of a deep rufous-brown tinge, rounded and not elongated at the anterior side, with transverse raised thin ridges, sometimes placed in pairs, and curved in a rounded manner towards the hinge, but not breaking into tubercles at either of the sides, nor striate longitudinally between them near the beaks: beaks curved much to one side, with a heart-shaped depression under them; one valve suddenly sloping inwards at the cartilage side, and finely striate longitudinally; inside white, with the margin finely notched: diameter two inches.

Da Costa's figure is an excellent one, which Maton and Raekett have referred to for V. verrucosa, and Dillwyn for V. cancellata.

On the Scotch coasts, and Bray in Ireland. *v. v.*

4. Venus

. Venus reflexa. *Reflected Venus.*

askey, Wern. Soc. i. pl. 8. f. 1.

hell somewhat orbicular, slightly produced at the ante- side, a little convex, thin, with thin raised transverse es turning upwards, but which at the anterior margin ome more expanded and undulated, and turn a little rnwards in a contrary direction towards the front mar- ; between the ridges, and on the expanded plates are y fine faint longitudinal lines which are hardly visible to naked eye: color pale yellowish-brown with obscure dish rays, which sometimes appear in arrow-shaped ts: beaks turned to one side, with a long narrow heart- ped depression under them: inside white, with the mar- finely notched: hinge with two of the teeth slightly ven: length an inch; breadth rather more.

t differs both from V. verrucosa, and V. Casina, in the ad membranaceous folds of the anterior margin, which ect a little backwards, and the fine longitudinal striæ n and between them: it is also of a more oblong shape, h a lanceolate depression on the posterior slope, and is ut half the size.

Scotland, south of Devon, and Bantry bay. *v. v.*

. Venus laminosa. *Laminar Venus.*

askey, Wern. Soc. i. pl. 8. f. 16.

hell rather oval, elongated and running nearly straight the cartilage side, yellowish-white, with numerous thin inar, or sometimes rather rounded, transverse ridges, y slightly bending up towards the hinge, and striate lon- dinally between them; these striæ are very fine, and ear sometimes only on the body of the shell, and some- es only in the region of the hinge: beaks pointed, turned ch to one side, with a broad heart-shaped depression un- them; inside white, with the margin finely notched: ge with four teeth, the outer one above the depression ne valve obsolete, or formed only by a cavity for the ption of the correspondent tooth in the opposite valve: th nearly an inch; breadth an inch and a quarter.

t has much the outline of V. Gallina, but is more gated on the cartilage side, is marked with fine trans-

verse striæ between the ridges, which are stronger and more remote, and the teeth are different.

Scotland, coast of Devonshire, and Bantry bay. *v. v.*

6. Venus Gallina. *Wrinkled Venus.*

Lister, pl. 282. f. 120, and pl. 295. f. 132—*Pennant*, pl. 59. f. 2—*Da Costa*, pl. 12. f. 2—*Dorset Cat.* pl. 8. f. 2.

Venus striatula. *Donovan*, pl. 68—*Montagu*, p. 113.

Shell strong, convex, produced on the cartilage side, which runs nearly straight from the hinge, with the slope on that side deeply but equally indented in both valves, covered with numerous close-set fine concentric striæ which are very slightly recurved, especially at the sides near the beak, and in young shells: color whitish or yellowish, rarely plain, but mostly with darker or paler rays, and marked with fine minute zigzag chesnut-brown lines; inside white, with the margin finely notched: beaks large, inclining to one side, with a deep heart-shaped depression beneath them: hinge strong; the outer tooth on the posterior side thin and laminar, the two others close together and a little curved: length about an inch; breadth an inch and a quarter.

Variety. Larger, much more elongated and straight on the cartilage side, with the striæ much finer and more indistinct, and of a rich uniform yellow color. It very much resembles a large specimen of the V. laminosa, but it wants the fine longitudinal striæ. *Fig.* 65.

On most sandy shores. *v. v.*

7. Venus fasciata. *Thick-ribbed Venus.*

Lister, pl. 277. f. 114—*Da Costa*, pl. 13. f. 3—*Donovan*, pl. 170—*Dorset Cat.* pl. 7. f. 3.

Venus Paphia. *Montagu*, p. 110.

Shell flattish, rounded, with broad flat transverse ridges which are very unequal, sometimes very broad and striate concentrically, sometimes narrow and slightly reflected, but generally broader than the interstices, and reaching quite across the shell: color yellowish white, or various shades of brown or reddish purple, with generally brown or reddish longitudinal rays; inside white, with the margin finely

finely notched: beaks prominent, central, curved to one side, with a broad heart-shaped depression under them, which is often colored; the cartilage side equally sloping in both valves, and forming a deep groove, often marked with colored streaks: length seven-eighths of an inch; breadth an inch.

It much resembles the V. Paphia, but is more rounded, and the ridges are more flattened and irregular, not abruptly obsolete on the cartilage side, but reaching quite across the surface, and mostly projecting a little beyond the margin, giving the slope a tubercled or jagged appearance at the edges. From this last circumstance it corresponds exactly with Linné's V. succincta: "rima excisa."

Sandy coasts of England and Ireland. *v. v.*

8. Venus sulcata. *Grooved Venus.*

Linn. Trans. viii. pl. 2. f. 2.

Venus Danmonia. *Montagu*, pl. 29. f. 4.

Shell rather flattened, roundish, a very little angular and produced at the anterior side, covered with a dark chesnut or olive green tenacious skin, under which it is glossy-white, with numerous regular equidistant rounded concentric ribs, from twenty-five to thirty in number, which are narrower then the spaces between them, and both themselves and the spaces quite smooth or obscurely striate transversely: these ribs grow fainter towards the sides, especially the cartilage side where they sink into a kind of wrinkles: beaks very prominent, pointed, curving to one side, with a deep elongated heart-shaped depression under them, which is sometimes covered with a blackish skin; inside white or cream-color, rather rough and not polished, except round the margin which is finely notched: in one valve a strong thick somewhat triangular and flattish tooth, with a deep cavity on each side, the others small and remote; in the other valve two strong remote teeth, with a large and deep hollow between them for the reception of the strong central tooth of the opposite valve: length about an inch; breadth rather more.

Opportunities of comparing numerous specimens, collected in various parts of Ireland and on the Devonshire coast, have satisfied us that the Venus sulcata and V. Danmoni a

monia are the same shell: and upon recurring to the description of each in Montagu, we can perceive no essential difference In his account of the V. Danmonia, he has contrasted it with the V. Scotica only, having probably forgotten his previous description of V. sulcata, which appears to have been drawn up from a specimen out of Mr. Sowerby's cabinet. Montagu describes the V. sulcata as having concentric ridges, the furrows between which are broader than the elevated parts: Maton and Rackett represent it as smooth, with obsolete wrinkles; a character applicable to the V. compressa of Montagu, our V. Montacuti; their figure also represents a shell of a much more triangular form, with the beaks more elongated, than any of the numerous specimens which we have examined; and being depicted with the margin quite plain, is a tolerably good figure of the V. Scotica.

The present specific name we have adopted, not only as being more characteristic and its primary denomination, but as the name Danmonia would lead to the opinion that it was peculiar to the coast of Devonshire.

North of Scotland; Bray, and the sandy coves near the Giant's Causeway, in Ireland; and the Devonshire coasts. *v. v.*

9. Venus Scotica. *Scotch Venus.*

Linn. Trans. viii. pl. 2. f. 3.

Shell roundish, rather flattened, covered with a pale yellowish-brown or olive-green skin, under which it is white, shaped and marked in every respect like the last, from which it can only be distinguished by the inside margin which is quite plain, and has a small rib or kind of rim round it close to the edge. The specimens which we have collected on the coasts of Devonshire, are very little more than half the size of the V. sulcata of the same coast.

Devonshire and Scotch coasts: rare. *v. v.*

10. Venus minima. *Minute Venus.*

Montagu, pl. 3. f. 3.

Shell thick, strong, roundish, rather flat, glossy, flesh-color, with broad concentric ridges, and mostly two white lines diverging half way downwards, and forming the letter

V; the point of junction in which is near the hinge, and at the end of each of the lines a red streak which continues to the front margin: beaks prominent, pointed, turned a little to one side; inside glossy white, with the margin plain: length a quarter of an inch; breadth rather more.

The white lines are sometimes wanting; but the red marks are always present.

Dredged up at Falmouth; very rare. *v. m.*

11. Venus subcordata. *Gauze Venus.*

Montagu, pl. 3. f. 1.

Shell strong, roundish, rather convex, white, with strong longitudinal rib-like striæ, and remote transverse ridges, making the intermediate spaces each a long square: beaks nearer to one end, much incurved and turning to one side; the cartilage end almost straight and much sloping, the other turned much inwards and almost smooth and glossy; inside glossy-white, with the margin finely notched: teeth very strong: diameter a quarter of an inch.

Dredged up in Falmouth harbour: very rare.

12. Venus Dysera. *Reticulated Venus.*

Lister, pl. 278. f. 115.

Shell somewhat oval and heart-shaped, white, with several transverse rufous-brown lines on the cartilage slope of one valve, marked with distant concentric raised ridges reflecting upwards, the spaces between them strongly striate longitudinally; inside white, with the margin slightly notched: beaks small, turned much to one side; in that valve which is without the colored markings on the slope, the outer-tooth next the beak is very minute: diameter hardly three-quarters of an inch.

Dredged in the Firth of Forth: very rare.

13. Venus Guineensis. *Guinea Venus.*

Lister, pl. 306. f. 139.

Shell convex, produced at one end, with numerous close-set regular sharp concentric ridges, of a greyish-white color with two or three purplish-brown longitudinal rays; inside white, inclining to purple on the margin behind the hinge, with the margin plain: beaks turning to one side, with a heart-

heart-shaped depression under them, which with lage slope is purple: hinge with three teeth in one of which stands transversely; in the other va besides a prominence on the side of the cavity ceives the transverse tooth of the opposite valv an inch and a quarter; breadth one and a half.

In its contour it much resembles the V. Gallin fers in the teeth, in having the ridges much m and sharp-edged, lying over each other in a kind cate manner, and in the margin being quite plain

Dredged in the Firth of Forth: very rare.

14. Venus triangularis. *Triangular Venus.*

Montagu, pl. 17. f. 3.

Shell strong, roundish and somewhat triangul sloping on each side from the beaks, marked o few antiquated ridges, of a dull yellowish-white side smooth, with the margin plain: beaks proj rather acute angle, giving the shell a somewhat outline, central, turning a little obliquely, with a depression under them: hinge strong, with two a lateral semilunar lamina in one valve, one of cloven, the other triangular and placed near it, lunar lamina running parallel with the heart-shap sion, its convexity pointing inwards, between whi margin is a deep groove; in the other valve th two of which diverge much, in order to admit th lar central tooth of the opposite valve, and a l locking between that and the marginal edge: l breadth about half an inch.

Devonshire coast, and Dublin bay: rare. *v.*

15. Venus Islandica. *White Clam.*

Lister, pl. 272. f. 108—*Pennant*, pl. 56—J pl. 14. f. 5—*Donovan*, pl. 77—*Linn. Trans.* v f. 1, 2—*Dorset Cat.* pl. 6. f. 5.

Shell strong, thick, convex, rounded, a little and sloping on the cartilage side, covered when a glossy yellowish-brown or dusky skin which is ate transversely, under which it is dull white and striate; inside pure chalky-white, not glossy, with t

plain and sharp-edged: beaks pointed, turned in and curving to one side, without any heart-shaped depression under them: teeth strong, with a fourth remote lateral one on one side: diameter four inches and a half; circumference twelve inches or more.

Variety. With five or six much raised and rugged concentric ridges.

On most sandy coasts. *v. v.*

16. Venus Chione. *Thick-lipped Venus.*

Lister, pl. 269. f. 105—*Donovan*, pl. 17—*Linn. Trans.* vi. pl. 17. f. 3, 4—*Da Costa*, pl. 14. f. 7—*Dorset Cat.* pl. 6. f. 7.

Shell strong, thick, convex, rounded and a little produced on the cartilage side, covered with a smooth glossy chesnut skin, and generally marked with longitudinal and transverse darker rays and bands, faintly wrinkled transversely, and very finely striate longitudinally, especially towards the sides, but these latter marks disappear upon the removal of the skin, under which it is of a lighter or darker chocolate brown; inside glossy-white, with the margin plain and very obtuse: beaks nearer to one end, oblique, turning to one end, with a strong heart-shaped depression under them: teeth four, the two middle ones lanceolate and close together, the lateral ones diverging: length three inches; breadth nearly four.

Western coasts, and South Wales. *v. v.*

17. Venus ovata. *Oval Venus.*

Lister, pl. 311. f. 147?—*Pennant*, pl. 59. f. 3—*Linn. Trans.* viii. pl. 2. f. 4—*Dorset Cat.* pl. 1. f. 15.

Shell somewhat oval, slightly convex, a little produced and sloping on one side, opake, brown, with numerous strong longitudinal ribs, which are crossed with fine transverse striæ; inside glossy-white or flesh-color, often purple in the middle, with the margin finely notched: beaks nearly central, turning a little to one side, with a faint heart-shaped depression under them: length three-eighths of an inch; breadth half an inch.

Western coasts, Dublin and Bantry bays, and Cove. *v. v.*

18. Venus

18. Venus granulata. *Granulated Venus.*

Lister, pl. 338. f. 175—*Donovan*, pl. 83.

Shell thick, convex, strongly ribbed both longitudinally and transversely, giving the surface a distinctly granulated appearance, white variegated with chocolate-brown spots and streaks; inside dark glossy purple, with the margin notched: beaks turning much to one side, with an oval heart-shaped depression under them; the cartilage slope with generally a few dark transverse lines: length seven-eighths of an inch; breadth an inch.

Western coasts, and North Britain: very rare.

19. Venus deflorata. *Fading Venus.*

Lister, pl. 425. f. 273—*Pennant*, pl. 60, lower fig.—*Montagu*, pl. 3. f. 4.

Shell oblong, somewhat oval, thin, semitransparent, of a whitish color tinged or faintly radiate with purple, marked with longitudinal waved striæ, and crossed by a few transverse wrinkles, giving it a net-like appearance, especially at the cartilage end; inside purplish, with the rays often visible, and the margin notched: beaks a little on one side, not much produced nor reclined: hinge with two teeth in each valve, one of them large, the other extremely small: length an inch; breadth an inch and three-quarters.

Western coasts: very rare. *v. m.*

B. *Somewhat orbicular*, 20 to 25.

20. Venus Tigerina. *Lenticular Venus.*

Lister, pl. 337. f. 174—*Montagu*, pl. 4. f. 1—*Linn. Trans.* viii. pl. 2. f. 5—*Dorset Cat.* pl. 1. f. 14.

Shell nearly orbicular, thin, flat, white with sometimes a purplish tinge on the edges, striate longitudinally, and crossed by numerous fine transverse lines; inside smooth, glossy white, with the margin plain: beaks small, pointed, turning a little to one side: length three-quarters of an inch; breadth nearly an inch.

The younger ones of V. decussata may sometimes be mistaken for this shell, but the angular shape of the cartilage side in this latter one, and the stronger striæ at the end, besides the difference in color, immediately distinguish them

hem. In the second plate of the eighth vol. of the Linnean ransactions, these two are placed together, exhibiting their ifferent appearances.

Western coasts: very rare. *v. m.*

21. Venus orbiculata. *Orbicular Venus.*

Montagu, pl. 29. f. 7.

Shell orbicular, rather flat, white, striate longitudinally nd transversely; inside white, with the margin plain: eaks extremely small, with a minute heart-shaped depresion under them: hinge with two teeth placed together, nd a remote one standing transversely; the margin where he lateral tooth is placed projecting into an angle: diameer five-eighths of an inch.

It has much the appearance of the last, but is not so flat, s more rounded and more coarsely reticulate, and the laeral tooth is much more remote.

Found by Captain Laskey, near Dunbar: very rare.

22. Venus undata. *Waved Venus.* Fig. 54.

Pennant, pl. 58. f. 3—*Donovan*, pl. 121—*Linn. Trans.* i. pl. 17. f. 17, 18.

Shell very thin and transparent, rather convex, yellowsh white with mostly a ferruginous tinge, marked with ine irregular transverse striæ or wrinkles, a little irregularly undulate round the circumference; inside glossy yelowish-white, with the margin very sharp edged and plain: eaks prominent, rather pointed, very little inclining to one ide, without the heart-shaped depression under them: hinge with three teeth in one valve, and two in the other: ength above an inch; breadth rather more.

Western coasts, and Dublin bay. *v. v.*

23. Venus exoleta. *Antiquated Venus.*

Lister, pl. 291. f. 127, and pl. 293. f. 129—*Pennant*, pl. 57. f. 3—*Da Costa*, pl. 12. f. 5—*Donovan*, pl. 42. f. 1—*Dorset Cat.* pl. 8. f. 5—*Linn. Trans.* vi. pl. 17. f. 9, 10, and viii. pl. 3. f. 1.

Shell strong, orbicular, flattish, often a little angular towards the front margin on the cartilage side, with extremely fine and regular close-set transverse striæ, and a few deeper

antiquated ridges: color whitish, with often a reddi sometimes longitudinally radiate, and rarely mar broad crimson longitudinal stripes, but generally v gular streaks and blotches of a reddish-brown; insi glossy round the margin which is plain: beaks turned much to one side, beneath which is a de shaped depression, generally of a pale brown or r lor: diameter sometimes two inches and a half.

The young shells differ nothing in their figure o ance.

Sandy coasts of England and Ireland. *v. v.*

24. Venus sinuata. *Lily Venus.*

Lister, pl. 289. f. 125, and pl. 290. f. 126. p. 3285.

Venus lincta. *Dorset Cat.* p. 35. pl. 1. f. 13.

Venus lactea. *Donovan*, pl. 149.—*Linn. Trans.*

Venus exoleta, Var. *Linn. Trans.* viii. pl. 3.

Venus exoleta. *Pennant*, pl. 59. f. 1.

Venus exoleta. The young shell. *Dillwyn*, p.

Venus excisa. *Dillwyn*, p. 195.

Venus Casina. *Dillwyn*, p. 165.

Shell thick, convex, roundish-oval, narrowe the beaks, from which it runs nearly straight dov tilage side, glossy white, with sometimes a ver lowish tinge towards the hinge, marked with close-set very slightly raised obtuse concentric rid become much more rough and elevated at the sid frequent deeper antiquated furrows: beaks cent neat, curved to one side, with a deep oval white he depression under them; inside white, glossy rour gin which is plain: teeth strong, in one valve fi in pairs on each side the beak and the pairs re each other, the outermost on the posterior side t in the other valve three, that which is placed o rior side remote and cloven: diameter an inch a

It is a much more ponderous shell than V. exc convex, oval-shaped, and polished, always with markings, and the older ones have generally a fi longitudinal lines.

The history of this shell, so very common on t

casts, and of which we have examined some scores in their various stages of growth, will exhibit a memorable example of that confusion of identity which sometimes obscures the writings of such as depend on the collation of plates and synonyms only. Lister has given a very good figure, marking it as English. Gmelin has admirably described it, justly remarking, that it differs from V. exoleta, in being less orbicular and more convex, in having the striæ more raised, and in having four teeth. Pulteney and Donovan described it as new, under different specific names. Maton and Rackett have copied both, making it the V. lactea of Donovan, and a variety of V. exoleta, likening it at the same time to V. verrucosa, and V. Casina. Pennant the younger has made it the V. exoleta itself. And to crown all, Mr. Dillwyn has erased Gmelin's shell from the system, quoting the present species as the young of V. exoleta, as the V. lactea of Donovan, as the V. excisa of Chemnitz, and as the V. Casina of Linné. *v. v.*

25. Venus Montacuti. *Montagu's Venus.*

Venus compressa. *Montagu*, pl. 26. f. 1.

Shell strong, thick, nearly orbicular, flat, slightly grooved and irregularly wrinkled transversely, white or covered with a yellowish brown skin; inside smooth, white, with a large cartilage impression near each end, the margin very flat and broad, from the edge of which it becomes suddenly convex, and is quite plain: beaks prominent, turning to one side, with a small elongated heart-shaped depression under them: hinge strong, with two large teeth in each valve, and a transverse tooth-like ridge in one of them: diameter from half an inch to an inch.

It evidently differs from V. sulcata in not having the margin notched; but we have some doubts whether it may not be the young of V. Scotica. The only difference appears to be, that the transverse ridges are not in that regular elevated cord-like manner.

We concur with Mr. Dillwyn, that as the specific name of compressa had been preoccupied by Linné, the name of him who first described it should supply its place. But as all specific as well as generic names are of Latin origin, we have ventured to give it a more classical termination. In

the Roll of Battle Abbey, the ancestor of this v
able naturalist is denominated "De monte acu
by a natural ellipsis Montacutus, corruptly an
Montagu. With this chain of thought we have
tish Fauna, exchanged the name of Cyclopteru
as given by Mr. Donovan, into C. Montacuti. A
tagu has himself admitted the principle, by call
Venus Danmonia, and not V. Devonia.

On the Dunbar coast: very rare.

C. *Oval, and mostly angular on the c*
26 to 35.

26. Venus decussata. *Parr Venus.*

Lister, pl. 423. f. 271—*Pennant*, pl. 60, n
Da Costa, pl. 14. f. 4—*Donovan*, pl. 67—*Linn*
pl. 17. f. 11, 12, and viii. pl. 2. f. 6—*Dorset Ca*

Shell strong, convex, much produced at the c
where it is somewhat angular and as if cut off
striate longitudinally, and crossed by transverse
are stronger towards the sides, especially the
where it puts on a coarse wart-like appearance:
brown, with sometimes two or three dark long
and a few blotches or zigzag marks; inside sn
with often a yellow or reddish tinge, and purp
cartilage side, the margin plain and very obtu
little turned to one side, not quite central, wi
shaped depression under them obsolete or wa
three in each valve, close together, two of th
length nearly two inches; breadth nearly thre

On most sandy coasts. *v. v.*

27. Venus Pullastra. *Hen Venus.*

Linn. Trans. vi. pl. 17. f. 13, 14, and viii
Dorset Cat. pl. 1. f. 8.

Shell convex, produced and somewhat an
cartilage side, finely and closely striate longi
transversely, but not running into coarse tu
jections at the cartilage side: color varying
white to a yellowish or brownish shade, with
or rich purple zigzag lines, streaks, rays or bl

are mostly on one side, rarely immaculate: beaks near one end, without the heart-shaped impression under them; inside white, with the margin obtuse and plain: teeth three in each valve, the middle one only cloven: length an inch and a half; breadth nearly two.

The outline of this shell is much like the last; but is more convex and not so much elongated, nor so coarse; the reticulations are finer; the ground-color is of a more delicate white, and the colored marks are generally crowded towards the elongated end; the middle tooth only is cloven; the lateral ones being thin.

Equally common with the last. *v. v.*

28. Venus perforans. *Perforating Venus.*

Montagu, pl. 3. f. 6.

Shell somewhat rhombic, convex, coarse, elongated and a little angular or truncate at the cartilage side, often much distorted and variously indented, a little gaping at the upper angle of the elongated side, white or pale brown, marked with transverse striæ which run into rough raised ridges or wrinkles on the longer side, with sometimes a few faint longitudinal ones, but not regularly reticulate; the cartilage long and straight; inside glossy white, with often a purple stain on the cartilage end; the margin thin and plain: beaks near one end, turning a little to the shorter side: hinge with three teeth in each valve, one of them small, the others long slender recurved and slightly cloven.

Barrowed in limestone, at Plymouth, and Hoath in Ireland. In the red calcareous sandstone about Teignmouth, in Devon, they are found lodged in abundance about low water mark, more than an inch long and nearly two broad: but in general they are about half the size. *v. v.*

29. Venus substriata. *Substriate Venus.*

Montagu, pl. 29. f. 6.

Shell transversely oval, white, semitransparent, concentrically wrinkled, and marked with obscure undulated longitudinal striæ; inside moderately concave and smooth, with the margin plain; beaks nearer to one end, small, turning to one side: hinge with three teeth; that which is next the cartilage long, oblique, and forming a cavity between it

and the margin for the reception of the cartilage; the oth two short, the middle one the longest: length half an inc breadth something more.

In the Firth of Forth: very rare.

30. Venus subrhomboidea. *Rhombic Venus.*

Montagu, pl. 28. f. 2.

Shell somewhat rhombic, rounded at one end and tr cate at the other, irregularly wrinkled transversely, es cially towards the margin where the wrinkles are promin but obtuse, and crossed by fine close-set longitudinal lin color white, with a rufous tinge at the truncate side; ins white, purplish where the rufous tinge is on the outsi with a plain margin: beaks small, nearly central, inclin to one side: hinge with two strong plain teeth in each val one of them very oblique; behind these the margin proj inwards, and then folding back forms a smooth reflex and a cavity between it and the outer edge of the shell hind the beaks for the connecting cartilage: length hal inch; breadth three-quarters.

It much resembles the Donax Irus; but that shel always furnished with two cloven teeth in each valve, bes a plain tooth in one of them: and the transverse ridge this are more obtuse and not so laminar.

Firth of Forth: very rare.

31. Venus virginea. *Maiden Venus.*

Lister, pl. 403. f. 247, and pl. 404. f. 248—*Penn* pl. 58. f. 5—*Linn. Trans.* viii. pl. 2. f. 8—*Dorset Cat.* pl f. 1.

Shell rhombic oval, much produced at the cartilage and rounded at both, with numerous regular concer somewhat imbricate striæ, interrupted by a few antiqu furrows: color glossy yellowish-white or pale redd brown, sometimes plain, but mostly variegated and mar with rosy or rich purple, sometimes streaked or spot and sometimes with broad oblique purple longitudinal r rarely pale rosy with two or three white rays; inside wl with often a rosy tinge about the hinge, the margin p and obtuse: beaks near one end, a little turned to shorter side, with a long and narrow impression u th

hinge with three teeth in one valve, the middle-one ; in the other, two of the teeth are cloven, with the one erect: length an inch or more ; breadth two

nant's figure is a good representation of V. perfo- ı its most perfect state.
ıtern and Irish coasts. *v. v.*

Venus aurea. *Golden Venus.*

er, pl. 404. f. 249—*Pennant*, pl. 60, upper fig.— *Trans.* viii. pl. 2. f. 9—*Dorset Cat.* pl. 13. f. 3.
l rhombic-oval, convex, a little produced at the car- end and rounded at both, the cartilage edge much d and not as in the last sloping down rather sharply, and regularly striate transversely, with a few anti- furrows, and crossed with some faint longitudinal color yellowish, whitish, or with a rufous tinge, marked with ferruginous or blackish minute zigzag or mottled with grey, especially about the edges ; yellowish-white, with a plain obtuse margin ; beaks one end, but more central than the last, a little curved, broad heart-shaped depression under them : hinge hree teeth in each valve, the middle-one slightly : length an inch ; breadth an inch and a quarter.
ıtern coasts, and various shores of Ireland. *v. v.*

Venus nitens. *Shining Venus.*

l rhombic-oval, a little angular on the cartilage side, in the middle, and sloping to a sharp edge round the ference, with very fine and regular transverse striæ l by minute longitudinal lines, of a glossy reddish ɔlor, with a few obscure deeper red irregular mark- bout the sides and margin ; inside glossy blueish- with a shining horny spot each side under the hinge, tilage spot tongue-shaped and defined by a horny ith the margin rather sharp and plain : beaks promi- ıd obtuse, not quite central, generally decorticated a whitish horn-color, very little turned to one side, n elongated heart-shaped depression under them is striate longitudinally : hinge with three teeth in each

34. Venus ænea. *Bronzed Venus.* Fig. 20.

Shell oval, convex, brittle, rather thick, covere
shining deep copper-colored skin under which it
white, rounded at one end, regularly tapering a
produced at the other, where it is also rounded
forming the least angle at the termination of the
with numerous close-set regular transverse stri
few deep furrows at the margin, marked also w
very minute longitudinal lines: beaks much poin
to and turning towards the larger end, with an
heart-shaped depression under them: teeth st
of them cloven in one valve and one in the othe
white, with the margin rather obtuse and plain:
inch; breadth one and a half.

This beautiful species, so totally differing from
we have examined, in its elegantly tapering shape
coppery skin, we found abundantly buried in the
at Clontarf near Dublin. *v. m.*

35. Venus sinuosa. *Indented Venus.*

Pennant, pl. 58. f. 4.

Shell roundish-oval, a little produced at the pos
and much broader on the cartilage side, yellowi
glossy, marked with numerous broad and flat
ribs, which do not run into rough ridges or wrinkle

depression under them which is a little prominent in the middle: hinge with three teeth in one valve, two of them approximate, the middle one cloven: in the other valve two, one of them cloven: length five-eighths of an inch; breadth a very trifle more.

This shell, which was taken alive in Dublin bay, may possibly be the same which Pennant has figured. Independently of the sinuosity, it differs materially from all such as seem allied to it, in its contour, especially in the singular circumstance of having the cartilage side broader and less produced than the other, in the central beaks, and in the teeth. *v. v.*

VOLUTA. *VOLUTE.*

Shell with a single valve, more or less spiral: aperture narrow, reaching much down the shell, without beak; the pillar toothed or plaited.

1. Voluta tornatilis. *Oval Volute.* Fig. 32, 33.

Lister, pl. 835. f. 58—*Pennant*, pl. 74. f. 1—*Da Costa*, pl. 8. f. 2—*Donovan*, pl. 57—*Dorset Cat.* pl. 14. f. 2.

Shell oval, ending in a fine point: spires eight, a little rounded and deeply defined by the separating line, the first very large and cylindrical, the others small, very finely and regularly striate transversely, with a few obsolete longitudinal wrinkles: color yellowish-white, ferruginous, or pale purple, with generally two whitish rather broad distant bands on the larger volution: aperture long, narrow-oval the outer-lip thin and plain; pillar with a single plait or fold: length three-quarters of an inch; breadth three eighths.

On most sandy beaches. *v. v.*

Voluta denticulata. *Purple-tipped Volute.*

Montagu, pl. 20. f. 5—*Dorset Cat.* pl. 18. f. 1—*Walker*, f. 50, and 53.

Shell oval, pointed, semitransparent, horn-color, inclining to purplish-brown at the tip: spires seven or eight, coarse, wrinkled longitudinally, with a few coarser ridges on the larger

larger volution, and often tinged with green toward outer-lip; the first very large and cylindrical; the small and hardly raised; the outer-lip thin, with t three tubercles near the margin; pillar with from t four tooth-like folds: length half an inch; breadth quarter.

The tuberoles on the outer-lip are seldom to be obs and we rather suspect that the present and the nex cies have been generally combined together.

Inlets of the sea, with the Turbo Ulvæ. *v. v.*

3. Voluta ringens. *Double-toothed Volute.*

Shell oval, tapering to a rather obtuse point, horn-color, transparent: spires six or seven, round well defined, striate or wrinkled longitudinally, t volution large and occupying more than half the shell ture narrow-oval, the outer-lip very thin, with four slight white teeth, which are placed rather with mouth, and are visible through the shell on the bac lar with four white teeth, the second from the bas large: length a quarter of an inch; breadth more third of its length.

Found with the last, from which it differs in size transparency, rounded volutions, and the distinct te the outer-lip which are uniform and constant, and ne pear like tubercles. And from the next, in wanting t opake milk-white color, in the distinct volutions, teeth. *v. v.*

4. Voluta alba. *White Volute.*

Shell oval, tapering to a rather obtuse point, milk semitransparent: spires five or six, quite flat and n bly raised, faintly striate longitudinally; the first ver and occupying three-fourths of the shell: aperture n oval, the outer-lip thin and without teeth, pillar smooth, sometimes a little spread, but not in the le flected nor forming a perforation, with two folds ne base: length about the tenth of an inch; breadth of its length.

Dublin bay, and North Britain. *v. v.*

5.

5. **Voluta reflexa.** *Reflected Volute.*

Shell oblong-oval, tapering to a very fine point, glossy brownish horn-color, semitransparent, irregularly but distinctly striate longitudinally: spires nine, rounded and well defined by the line of separation, the first large and covering more than half the shell: aperture oblong-oval, contracted to a point at the upper end; the outer-lip thick and reflected, with five small teeth on the inside; pillar-lip somewhat spread and turned back so as to form a small perforation behind it, with three strong folds and a tubercle above them: length more than a quarter of an inch; breadth a third of its length.

Taken in a shrimp net on the sands at Exmouth, and is in the cabinet of Mrs. C. W. Loscombe. *v, m.*

6. Voluta fusiformis. *Spindle Volute.*

Shell glossy-white, transparent, quite smooth, swollen in the middle and tapering to both ends: spires four, very flat and only defined by a fine lucid circular line, the first very large and occupying more than three-fourths of the shell, inflated in the middle and tapering towards the base which is rounded and a little reflected: aperture oblong-oval, reaching to the top of the primary volution; the outer-lip very thin and plain; pillar-lip smooth, not spreading nor reflected, without teeth or folds, but furnished with a small oblique gibbosity in the middle: length three-tenths of an inch; breadth half its length.

We were in some doubt whether to place this new and elegant species as a Murex or a Voluta; but the polished surface, the aperture, and the general contour of the shell inclined us to the latter family. It was found on the sands at Exmouth, and is in the cabinet of Mrs. C. W. Loscombe. *v. m.*

7. **Voluta pallida.** *Pale Volute.*

Lister, pl. 714. f. 70, outer fig.—*Da Costa*, pl. 2. f. 7.
Bulla pallida. *Donovan*, pl. 66.

Shell cylindrical, obtuse, glossy-white, smooth, with hardly any distinct spire at the end, the upper volution being extremely small and scarcely defined by the line of separation: aperture narrow, reaching nearly the whole length

length of the shell, a little dilated at the larger en outer-lip thin; pillar with four strong folds: leng an inch; breadth not a quarter.

It something resembles the Bulla cylindracea, an evident spire, and the aperture is strongly tooth

Found at Tenby: very rare. *v. m.*

8. Voluta catenata. *Linked Volute.*

Montagu, pl. 6. f. 2.

Shell oblong-oval, strong, semitransparent, inde involute at the base, glossy-white, with the upper very obtuse and hardly defined, the larger one w transverse bands of opake white oblong spots, co in a chain-like manner by small rufous spots or s aperture linear, extending the whole length of th the outer-lip thick but not margined, obscurely ar toothed; pillar with two strong and two faint folds a quarter of an inch; breadth an eighth.

Cornish coast, and North Britain: very rare.

9. Voluta lævis. *Smooth Volute.*

Donovan, pl. 165.

Cypræa Voluta. *Montagu*, pl. 6. f. 7.

Shell oval, strong, thick, finely polished, white green, especially on the back which is gibbous; s obtuse, rounded and a little reflected: spires thre definable by the separating line, ending rather ol the body volution very large, the others short an aperture linear, reaching nearly the whole length shell; the outer-lip much thickened like a Cypræa, margined, a little gibbous in the middle, obscurely the whole length, with sometimes a rosy tinge al edge and at both the ends; inner-lip with two obscu and very faintly toothed along the edge: length inch; breadth three-eighths.

This species, which is not very uncommon on the coasts, very much resembles the Voluta rustica o From V. mercenaria it differs in not being ribbed o and from V. glabella in wanting the four strong fold pillar. *v. m.*

10. Voluta triplicata. *Three-folded Volute.*

Donovan, pl. 138.

Shell strong, oval, smooth, chesnut-brown: spires six, the first occupying three-fourths of the shell, the volutions so very flat as to be distinguished by the separating line only: aperture contracted; pillar with three folds: length hardly an inch; breadth a third of its length.

It resembles V. denticulata, but is stronger and more opake, the volutions much flatter, and it wants the inner denticles on the pillar.

On the shores of Guernsey: rare.

11. Voluta bidentata. *Two-toothed Volute.*

Montagu, pl. 30. f. 2.

Shell conic, pointed, strong, thick, pure white and somewhat glossy: spires six or seven, with a few distant longitudinal wrinkles which give an undulated appearance to the separating line; the first volution extending over two-thirds of the shell: aperture narrow, contracted at the upper part; the outer-lip thick; pillar much thickened, reflected and forming a slight perforation, and furnished with two tooth-like folds: length a quarter of an inch; breadth a third of its length.

In the thick outer-lip and small perforation behind the pillar it resembles the V. reflexa; but differs in color, in the flatness and number of the volutions, in being of a more conic form, and in having no teeth on the outer-lip and fewer on the pillar: and from V. alba it is distinguished by the thick outer-lip, and the reflected pillar-lip.

Coasts of Dunbar and Devonshire. *v. m.*

12. Voluta hyalina. *Transparent Volute.*

Montagu, pl. 30. f. 1.

Shell white, transparent, smooth, tapering to a fine point: spires six, flat and hardly defined by the separating line; the larger volution covering more than half the shell: aperture contracted into a kind of lip or canal, and is abruptly cut off at the end; pillar with seven or eight fine thread-like folds: length a quarter of an inch; breadth more than a third of its length.

On the Dunbar coast: very rare.

13. Voluta Bullaoides. *Bulla Volute.*

Montagu, pl. 30. f. 4.

Shell oval, pale horn-color, with a purplish-brown at the tip, which is most minute: spires eleven or t flat, not regularly divided by a line of separation, but over each other and leaving the edge abrupt; the volution covering three-fourths of the shell, the othe small, the terminal ones suddenly and abruptly dec in size: aperture contracted, the outer-lip reaching half-way up the shell; pillar-lip quite smooth, with or tooth, but the lower part of the outer-lip makes curl, enters the aperture, and becomes a strong ri the pillar, and by its flexure forms a sort of canal or length three-eighths of an inch; breadth about length.

Found in the Portland museum.

14. Voluta heteroclyta. *Reversed Volute.*

Lashey, Wern. Soc. i. pl. 8. f. 12.

Shell white, glossy, slightly tapering to an obtus veined like ivory in a longitudinal direction: spir ovuine, reversed, the larger volution covering two-t the shell: aperture narrow-oval, not quite reachi way up; the pillar with a single fold: length a qu an inch; breadth a third of its length.

On the Dunbar coast: very rare.

POSTS

POSTSCRIPT.

"NULLA dies sine lineâ," was the recommendation of him who brought into systematical arrangement the mighty materials of created nature: and long experience has taught us, "that each day is the disciple of that which has gone before."

In looking carefully over some fine specimens of the Serpula tubularia, among which various other species were entwined, we observed several of our Patella tricornis, and P. Extinctorium attached to them, some of which closed up the orifices of the tubes. This circumstance has led us to the supposition that they may eventually turn out to be the opercula or lids of different Serpulæ. But as the animal inhabitants of such as we examined were dead and shrunk deep into the tubes, we could perceive no kind of attachment. Anxious as we are to ascertain whether these are actually specific productions, or merely the lids of other shells, we can at present only issue our suspicions on the subject, not being able immediately to refer to fresh and living specimens of these Serpulæ: and as our last proof sheet is now before us for revision, we must in a few hours close all further communication through this channel.

By the few conchological friends around us they have been considered as Patellæ: and it may be remarked, that no author, as far as we know, has taken any notice of such opercula; not even Montagu, who has given much attention to the formation of the animals of this tribe.

If therefore we are in error, it is an error which perhaps better naturalists than ourselves might casually have fallen into: and we are solicitous to point out the easy means by which these singular productions may be arranged in their proper place.

Cardium edule. p. 30.

Variety D. With one of the valves larger an the other within it, the beak curving over it.

Specimens of this singular variety we obse cabinet of Mrs. C. W. Loscombe, of Exmouth.

Cardium aculeatum. p. 28.

Walker, f. 83, 84. The very young shell.

Opportunities of comparing these minute Cardium muricatulum of modern authors, fro of Torbay, with the C. aculeatum in its sever growth, incline us to think they are of the sa They are of a pale yellowish color, semitransp the cartilage side somewhat angular and tru round the margins and at the sides are clothed spines. Our references therefore of Walker's C. medium should be removed.

Dentalium eburneum. p. 37.

This and our D. politum, p. 38, do not corr the characters of the Linnéan species under th nations, and we must therefore consider them and nondescript; suggesting that the former b D. *album*, and the latter to D. *lævе*.

Helix Ericetorum. p. 49.

Da Costa, pl. 4. f. 8.

Lepas cornuta. p. 73.

Some clusters of what appeared to be of t were lately gathered from the bottom of a ve mouth. They were entirely of a dusky-brown mouth in opening wide-oval, slightly cloven at t a tubercular projection on each side the cleft, left-hand side, below the tubercle, are several ir projecting foliations. *v. v.*

Lepas dentata. p. 71.

We have lately taken large masses of the se ties of this shell, and are fully convinced that long to L. anserifera. Every conchologist kn ficulty of exact discrimination between these t

but the short stalk, and carinated back valve, will at all times sufficiently distinguish the L. anserifera. This latter circumstance, of the black valve being carinated, induced Bruguiere and Mr. Wood to consider the toothed variety as a distinct species.

Lepas sulcata. p. 72.

Variety. The front margin of the upper pair of valves fringed with four or five projecting sharp spines, giving it much the resemblance of the cartilage side of Venus Dione: and the edges of the back valve serrate or slightly toothed towards the base.

Lepas punctata. p. 78.

Variety. On a long stalk, like the L. elongata.

This variety we found abundantly on the projecting rock which separates the Dawlish and the Warren sands.

Murex antiquus, *Variety*, reversed. p. 89.

Lister's figures have every appearance of fossile shells; and it is probable that Lister himself considered them as such; as at pl. 907. f. 27. he remarks, that the Murex pertusus was the only left-handed marine shell which had ever come under his inspection: "sola cochlea e marinis est, quantum hactenus vidi, quæ e dextrâ sinistrorsum torquetur:" and at lot 2004 of the Portland Catalogue, a reversed Murex is mentioned as a petrifaction from Harwich, Linné and Gmelin, however, admit a recent reversed species, much allied to Murex antiquus, under the name of M. contrarius, referring to Lister's plate 950, for a representation of it. In the Portland Catalogue it is exhibited as a variety only, as the lot 4020 is described, "Murex antiquus, *L. and a reversed one*, extremely scarce, named by L. Murex contrarius:" but its country is not mentioned. This lot was sold to Mr. Dillon for two guineas.

Nerita sulcata. p. 124.

Lister, pl. 607. f. 41?

Lister marks this as English, describing it, "lineis undatis rarioribus per obliquum depictus." His figure exhibits a grooved appearance, but his words may imply nothing

thing more than that it has undulated, remote, obliqu
lored markings.

Nerita glaucina. p. 124.

Our figures 71 and 72, were by mistake given to N.
rena, and should be removed to this species.

Ostrea Islandica. *Northern Scallop.*

Lister, pl. 1057. f. 4—*Shaw, Nat. Miscell.* pl. 978,
Ostrea cinnabarina. *Dillwyn*, p. 256.

Shell orbicular, or inclining to oval, thin, transp
flattish, equivalve, with from thirty-five to forty fine
tudinal ribs, which are mostly cloven at some distan
low the hinge, and frequently divided into three ne
front margin, forming a numerous and crowded assen
of ribs round the circumference, generally appearin
they were alternately smaller; these are a little roug
raised vaulted scales, especially about the margin:
pale chesnut, whitish, or pink, variously depicted wit
color, carnation, or deep-purple red, and more or l
stinctly marked with darker transverse semicircular
and five paler longitudinal rays; the under valve wh
slightly colored: ears scaly, and strongly ribbed
versely; the smaller one about half the length of the
which is rounded and deeply sinuated or emarginate
the hinge: inside white, or tinged with rose-color tc
the hinge, glossy, perlaceous, strongly striate or r
with the margin finely serrate by the projection of t
merous ribs: length three inches and three-qu
breadth three and a half.

Young shells are of a more oval shape, without
and the ribs are few of them divided, and consequen
so numerous and crowded about the margin. In thi
they much resemble the O. varia in shape; but the
are flatter, and the ears are not so disproportionate.

Since our sheets describing this family have been p
off, a fresh and perfect series of this very fine and be
species have come before us, from an inch long to th
above mentioned. Those which we have in our c
were quite flexible at the cartilage, and had more
the remains of the fish in them; and, as we under

were taken by the trawl, near the Eddistone Light-house. Mr. Dillwyn observes, that Gronovius considered this species as British, and that Montagu had informed him, a specimen had been taken somewhere in Scotland; but no notice is taken of it in his writings, or by any conchologist of that country. *v. v.*

We have retained Gmelin's specific name, both as his work is in general use, and as it has been adopted by Shaw and Chemnitz.

Solen diclivis. p. 164.

Lister in his notes has the following remark: "This shell seems to be Chamous, or naturally open at both ends; it hath a ridge or depressed sinus at the end, where the hinge is, otherwise it is equally obtuse and broad at both ends, not unlike the Solen kind, among which it might be placed; it is thin and hollow and of a brown color. I never saw but this one pair of them in Mr. C's (*Charlton's*) cabinet. From the Mediterranean sea."

Turbo elegantissimus. p. 209.

Turbo acutus. *Donovan*, pl. 179. f. 1.

p. 6. l. 4, from the bottom, after shell thick, *read* orbicular.

p. 23. l. 16, for outer-lip, *read* pillar-lip.

p. 82. l. 1, *erase*, beaks large, prominent, quite central.

p. 93, for *Montagu*, pl. 263, *read* p. 263.

p. 126. l. 14, for Turbo canalis, *read* Turbo Lacuna.

p. 136. l. 32, for *Da Costa*, pl. 3, *read* pl. 8.

p. 174. l. 4, *erase*, one of the valves more convexthan the other.

p. 221, l. 8, from the bottom, for the tenth of a line, *read* the tenth of an inch.

p. 239, l. 11, from the bottom, add *Walker*, f. 82.

By an unavoidable accident, the drawings of the following figures did not reach us till it was too late to refer to them in the letter-press. They may easily be added with a pen or a pencil.

Arca minuta. *Minute Ark.* Fig. 98.

Buccinum carinatum. *Carinated Whelk.* Fig. 94.

Helix iarthina. *Blue Snail-shell.* Fig. 96.

Murex

Murex carinatus. *Carinated Rock-shell.* Fig. 95.
Mya striata. *Striated Gaper.* Fig. 99.
Mya Norwegica. *Norway Gaper.* Fig. 100.

At the close of our labours, it is impossible to avoid expression of our warm acknowlegements to the frie by whom we have been kindly assisted in our researcl And more especially to the Earl and Countess of Bant for our hospitable reception at their noble mansion dur our stay at Bantry bay, and their obliging attentions in warding the object of our wishes: and for like attenti to Mr. and Mrs. Travers of Cove. To Mr. O'Kelly, Mr. Tardy, our scientific companions in frequent and lightful excursions to the celebrated silver strand of P marnock in Dublin bay. To Mr. Haffield for his hig finished drawings from the original specimens, of Buccii carinatum, Helix disjuncta, H. terebra, H. ianthina, Mu carinatus, and Turbo Turtonis. To Mrs. C. W. Losco of Exmouth, for the liberal use of her very rich cabine British shells. To Miss Sutton for the drawings of A minuta from the specimen found by herself at Tenby; for the drawings of Mya Norwegica from the origi and the Mya striata to contrast with it. To W. H. Jon Esq. of Teignmouth, for his fine and accurate drawing Anomia Psittacea, Bulla patula, Teredo bipennata, Tu pallidulus, T. Puteolus, T. Lacuna, and T. vinctus. An our worthy friend Mr. Lake of Teignmouth, for his duity in collecting for us, during his residence at whatever was rare in that neighbourhood, particularly Buccinum terrestre, from its native mountains.

Teignmouth, Devonshire,
Jan. 1, 1819.

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ifficulty of pronouncing correctly many of the names natical natural history by those who are not readily ted with the languages from which they are generally , has induced us to accent those which have more than ables, and divide such as appear to be most liable to s of this nature: as in the words *i-dn-thi-na*, which has y four syllables, and *ba-la-no-i-des*, which has five, it is i to pronounce the former *jan'-thi-na*, as if it had only llables, and the latter *ba-la-noi-des*, as if it had only The synonyms are in italics.

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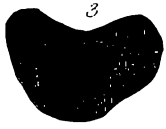

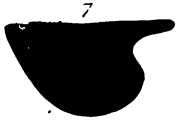

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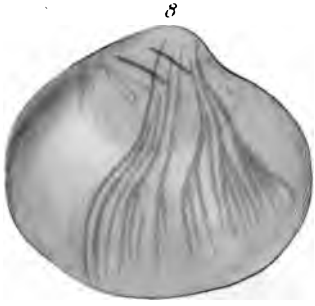
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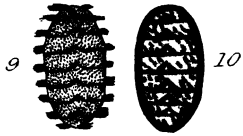
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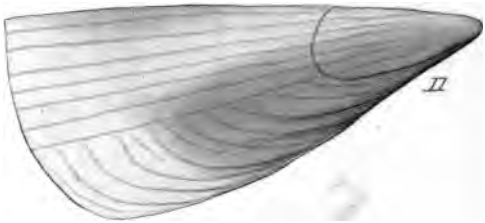
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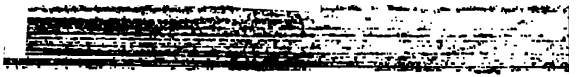

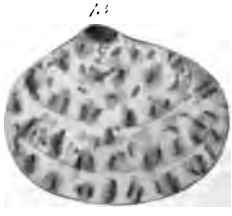

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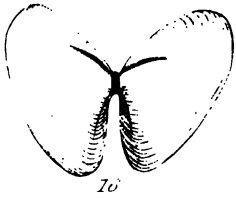

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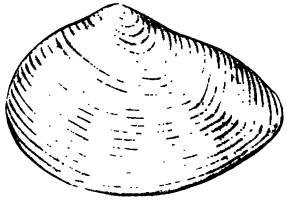

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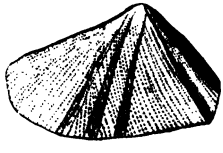

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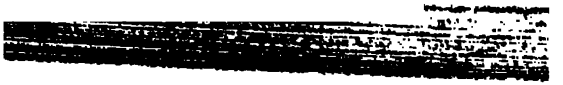

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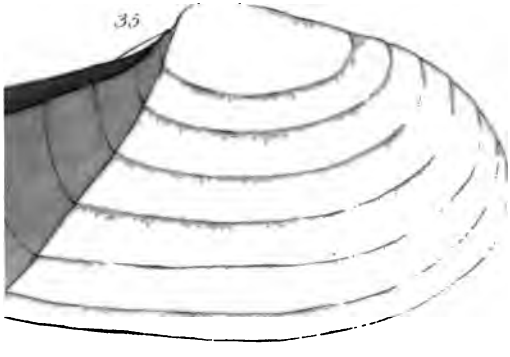

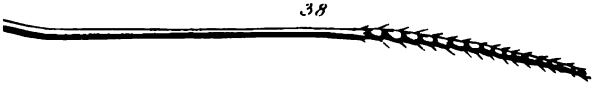
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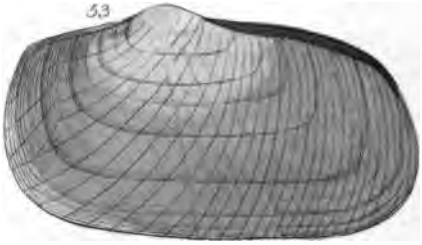
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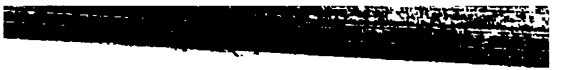

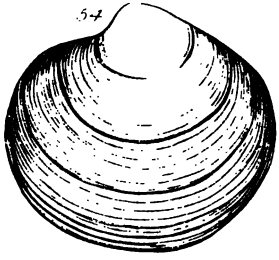
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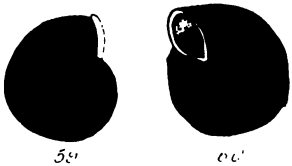

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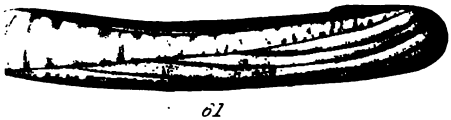

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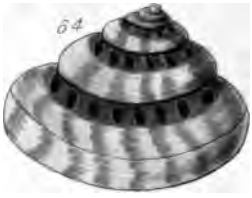
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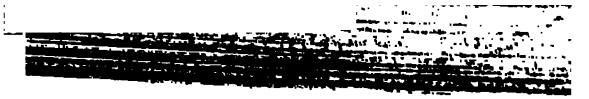

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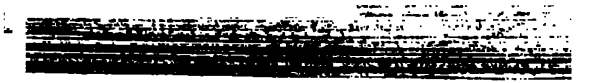

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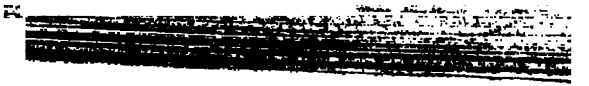

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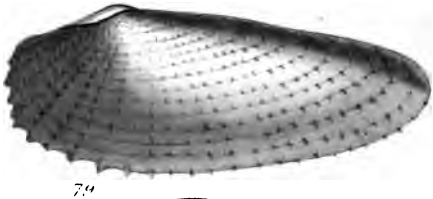

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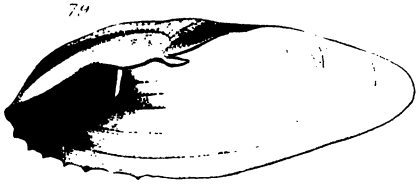

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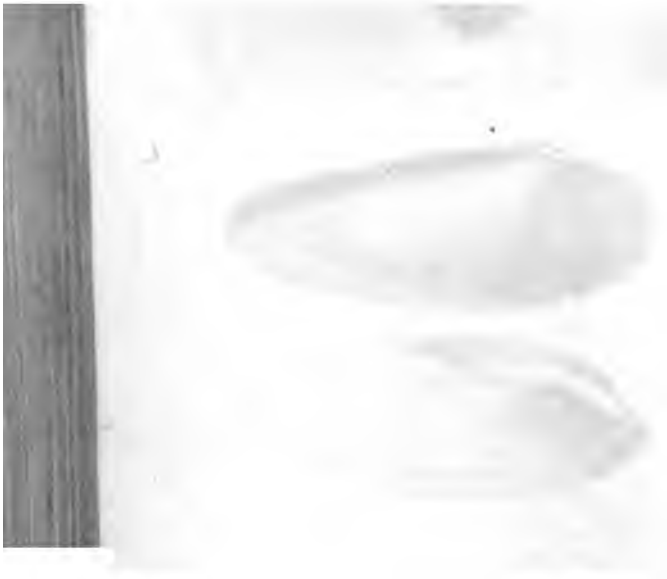

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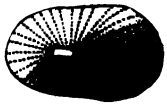

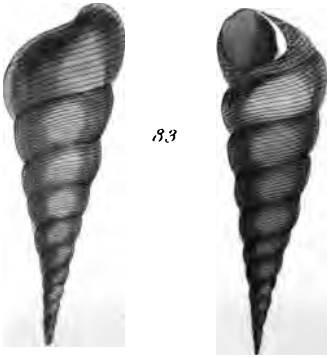

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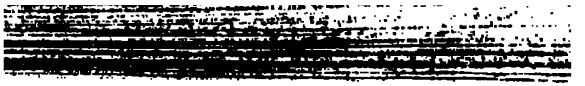

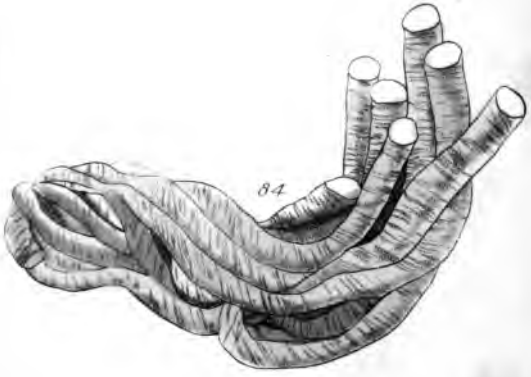
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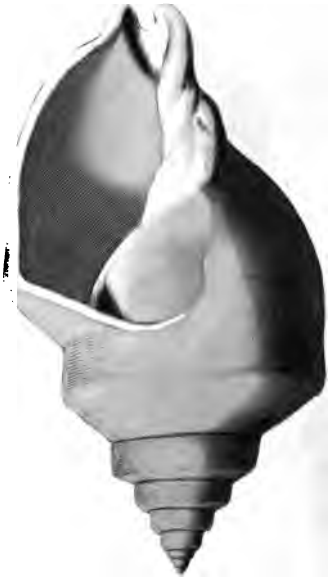

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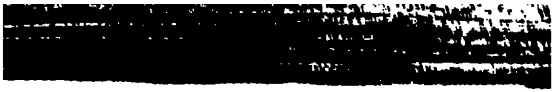
BODLEIAN